DOCUMENT RESUME

ED 338 231 IR 015 269

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TITLE The Decision Making Process: An Instructional Project for Sixth Grade Students At-Risk.
PUB DATE Aug 90
NOTE 116p.; M.S. Thesis, New York Institute of Technology.
PUB TYPE Dissertations/Theses - Masters Theses (042) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS *Decision Making; Grade 6; *High Risk Students; *Instructional Design; Instructional Development; Instructional Materials; Intermediate Grades; Pretests Posttests; *Problem Solving; Questionnaires; *Student Attitudes; Teaching Methods; *Thinking Skills; Units of Study; Videotape Recordings
IDENTIFIERS Instructional Systems Development Model

ABSTRACT

This report presents an examination of the analysis, design, implementation, and evaluation of an instructional unit designed to help high risk sixth grade students become better problem solvers through the teaching of the decision-making process. The systems approach outlined in the Instructional Systems Design (ISD) Model was used to formulate multimedia activities and to develop instructional materials for teaching the steps involved in decision-making. It is noted that these steps include identification of the problem, identification of solutions to the problem, recognizing advantages and disadvantages for each solution, and choosing a course of action. It is argued that teaching high risk students how to make decisions, solve problems, and develop critical thinking skills, will not only help them in future decision making capacities that could involve drugs, sex, and crime, but it also has a positive effect on their self-confidence and self-esteem levels. The instructional materials and the strategies used in teaching decision-making skills to the 30 high risk sixth graders included printed materials, discussions, lectures, role-play activities, and video production; they were found to be highly effective. Questionnaires were used to gauge student attitudes toward the instruction, while pretests and posttests measured achievement. A detailed description of the development process is provided together with recommendations for use by other educators. Appendices contain the surveys used in the study, grouped and sequenced objectives, project planning lists, a task analysis of the instructional goal, evaluation materials, and copies of work sheets. (22 references) (DB)

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THE SCHOOL OF MEDIA AND ARTS

of

NEW YORK INSTITUTE OF TECHNOLOGY

announces the

Final Examination

of

Anna McCarthy

for the degree of

MASTER OF SCIENCE

in

TRAINING AND LEARNING TECHNOLOGY

The Decision Making Process: An Instructional Project for Sixth Grade Students At-Risk

Abstract

This document presents an examination, of the analysis, design, implementation, and evaluation of an instructional unit helping at-risk sixth grade students become better problem solvers through the teaching of the decision-making process. The designer applied the systematic approach outlined in the Instructional Systems Design Model in the formulation of multimedia activities. An examination of the needs and concerns leading to this approach is followed by a description of the program found to be effective for developing decision making skills in the 30 students participating in the instruction. Formative and summative evaluation techniques were utilized to ensure the best possible results. A complete description of the development process is provided. Recommendations are presented for use by other educators.

Tuesday, August 21, 1990 at 2:30 p.m.

in

Conference Room, French Chateau
Old Westbury Campus
Old Westbury, NY

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THE DECISION MAKING PROCESS: AN INSTRUCTIONAL PROJECT FOR SIXTH GRADE STUDENTS AT-RISK

a

THESIS/PROJECT

by

ANNA MCCARTHY

submitted to the faculty of the
School of Media and Arts

of

NEW YORK INSTITUTE OF TECHNOLOGY

in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

in

TRAINING AND LEARNING TECHNOLOGY

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B.S. 1984, State University College at Geneseo

A Thesis/Project

submitted to the Faculty of the

School of Media and Arts

of the New York Institute of Technology in partial satisfaction

of the requirements for the degree

Master of Science

June 3, 1990

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ACKNOWLEDGEMENTS

I am truly fortunate to have people in my life who are very caring and supportive. I thank my friends and family for giving me encouragement and understanding when I needed it most. My love and appreciation goes to all of you.

A special thank you goes to my colleagues who generously gave their time and expertise to this project. It could not have been accomplished without them.

My deepest gratitude and love to my husband, Kevin. You were there for me through the many months of relentless writing. You'll never know just how much your patience and loving encouragement has meant to me. I think it was the ice cream that helped most of all! I love you and thank you, always.

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CHAPTER 1

INTRODUCTION

Overview

Young people of today are faced with many challenges. It seems that as they grow, so does the list of obstacles which may interfere with their success. They are asked to avoid peer-pressure, to refuse illegal drugs or perhaps even to deal with divorce, alcoholism or abuse in its many forms. Through it all, they must try to achieve academically in order to find a place for themselves in this ever-changing world. Many of our youth may navigate this course successfully, but unfortunately too many may not. The term "at-risk" has been developed to describe those children who may be unable to successfully meet these challenges without specific types of support and intervention.

In light of these facts, it seems obvious that children today need to be equipped with specific abilities which will aid them as they make critical choices in their lives. It is logical to assume that children who are given the opportunity to gain confidence in their decision making abilities will utilize these skills more effectively than those children who are not given such an opportunity. Decision making is a learned process of logical deduction. Since one would not expect a student without prior instruction in geometry to prove a geometric theorem, why then should a student with no prior knowledge of the decision making process be expected to make logical decisions?

As children progress through elementary school, their opportunities to make decisions are often quite limited by the educational structure. In most cases, children in these grades

are told when to work, play, eat, visit the bathroom, and interact with others. A teacher will sometimes even resolve their personal conflicts in order to avoid disruption. It is likely that much of the same exists at home. It seems that most of the daily decisions in children's lives are made by the adults around them. It is fair to assume that limiting a child's experience with this type of problem solving also limits the opportunity to acquire the cognitive skills necessary to solve problems. Gagne (1985) stated that, "The contents of memory that make problem solving possible are the rules that have been previously learned." It is therefore essential that the educational experience include many opportunities to make decisions and solve problems which will help children develop a set of cognitive rules for all types of problem solving.

Background

As a sixth grade teacher, the designer of this project realized that many sixth grade students could not sucessfully analyze a problem and find a solution. This inability revealed itself in their academic work as scientific and mathematical problem solving became difficult. The lack of decision making ability also showed up in social situations when personal conflicts arose. In light of these problems, the need for some type of instruction on the decision making process became evident. Before embarking on the development of such a unit, all state and local curriculum policies and guides (K-7) were reviewed. In reference to the decision making process, the following was found:

1. State Board of Regents policies--The decision making process is mandated as an entire unit of instruction in the Home and Career Skills Syllabus-Grade 7.

2. Local School Board policies--None exist with specific reference to decision making.

3. State Curriculum Guides--Problem solving is listed as an expected outcome throughout the Elementary Science Syllabus Grade 6.

4. Local School District Guides--The K-6 Health Education Curriculum-An Apple A Day, emphasizes health choices and drug education with no specific reference to the decision making process.

All information received from the above sources indicated that although various decision making skills have been listed as expected outcomes throughout the elementary curricula, the teaching of the decision making process has not been mandated at this level. The designer of this project proposed to develop an instructional unit for sixth grade students on the steps of the decision making process. When completed, this unit could be utilized to supplement all areas of the sixth grade curriculum where problem solving and decision making are listed as expected outcomes.

Statement of the Problem

Decision making is a cognitive process which involves critical thinking and problem solving. Each of these are higher order thinking skills which all educators are obligated to develop in their students. If we propose to help the young people of today become less "at-risk," then we must help them to become better thinkers, problem solvers, and decision makers. We cannot assume that with maturity comes logic and rationale. We must assume that the ability to make logical decisions is a product of education and experience.

The problem which lies as the foundation of this project, is the lack of strong decision making skills among many sixth grade students in the Farmingdale School District, Farmingdale, New York. One possible reason for this lack of ability is the fact that elementary school children are not being taught the steps of the decision making process. Given the fact that children today are often confronted with choices concerning drugs, sex and crime, they must be better equipped to make these choices.

Purpose of the Project

The purpose of this project is to enable sixth grade students to execute each step of the decision making process when given a problem which involves making a decision. When instruction has been completed, students will be able to:

1. Identify the problem in a given situation.
2. Identify the problem as a personal, family, or social problem.
3. List all possible choices for solving the problem.
4. Recognize and list advantages and disadvantages for each choice.
5. Choose one course of action, and defend that decision.

This project is intended to develop and strengthen these problem solving abilities, which may in turn give the students the confidence necessary to make difficult decisions.

Definition of Terms

The following terms are defined as they will be used in this project.

1. **Decision Making Process**--A five-step process which includes: identifying the problem, identifying choices, or

alternatives, identifying advantages and disadvantages for each choice and making a decision based on the first three steps.

2. **Choice**--An alternative or option. These terms may be used interchangeably.

3. **Choice**--Those items used by the students including worksheets, paper, pens.

4. **Resources**--Those items used by the teacher including text books, reference books and curriculum guides.

5. **Students**--The target population for this project is sixth grade students attending Woodward Parkway Elementary School, Farmingdale, New York.

6. **Child-Created Videos**--Videotaped segments that the students will plan and tape with the aid of the instructor. These videos will be utilized as part of the instructional plan.

Assumptions

1. That the decision making process involves the acquisition of sequential cognitive abilities.

2. That the students participating in this project have not had any formal instruction on the decision making process.

Limitations

1. That the decision making unit designed for this project was developed for the sixth grade students in Woodward Parkway Elementary School and may not be suitable for use elsewhere without modification.

2. That all written materials were designed to meet the specific needs of the target population and may not be suitable for use with other students without modification.

Method and Procedures

The method used to develop this project was based on the Instructional Systems Design (ISD) Model (Center for Educational Technology, 1976). This systems approach to the design of instruction utilizes a linear format to guide the designer through each stage of the process. The five stages of ISD are: analysis, design, development, implementation, and evaluation.

Analysis

The ISD process began with the identification of a need. The need initially presented itself through the lack of decision making skills displayed by the target population. The designer then conducted surveys of all professional staff working with these students in some capacity. These professionals included: teachers, administrators, and psychologists. The results of these surveys indicated that the majority of those surveyed confirmed the need for stronger decision making skills in the sixth grade students. The students were also surveyed, and the results proved that the majority of these children did not feel confident in their ability to make decisions.

In order to develop an instructional goal, a complete learner analysis was performed which included an examination of individual reading, math, and verbal abilities. After careful evaluation of the learner analysis, an instructional goal was developed and a task analysis perfomed.

Design

The design stage began with breaking down the instructional goal into sixteen performance objectives as suggested by Mager (1984), which was the primary source for writing clear, measureable objectives at this stage. These performance objectives were then

grouped and sequenced to most appropriately meet the learners' needs and classroom time limitations.

After determining entry-level behaviors, test items were developed for each performance objective. It was then possible to begin the development of preinstructional activities, testing, and follow through activities.

Development

All instructional activities were developed based on Gange's nine instructional events (Gagne, 1985). Materials were developed to provide motivation, reinforcement, and to meet individual learning needs.

Anderson (1983) served as a guide for all media selection. The media developed and utilized in this instructional design included: printed materials, human and situational resources, and videotapes. All media was selected to most appropriately meet learner needs.

The methods of instruction included: Discussion, lecture, role-play activities, and video production.

Implementation

During implementaion, the instruction was then delivered to the target population. All data was collected at this time to be evaluated in the next stage.

Evaluation

The formative evaluation consisted of a one-on-one and a small group trial. The information collected during this stage was used to revise all instructional materials to improve the final version of the instructional project. All information and data collected during the implementation was analyzed in the summative evaluation. This final component of the ISD was essential to the

design process, since the collection and interpretation of data at this stage is intended to determine the value and effectiveness of instruction.

Summary

Of the many factors which will influence a child's future success, education is certainly one of the strongest. The importance of implementing instruction which will help children successfully meet the challenges they may confront becomes even more pertinent when we consider the types of obstacles that the children of today may encounter. These obstacles may interfere with their academic and personal success. The ability to execute the decision making process, the instructional goal of this project, may provide young people with the confidence and skill to make important decisions in their lives.

The need for this instructional system was identified in the analysis stage. In the design stage, all performance objectives were established. During development, all instructional activities were planned and appropriate media was selected. The entire instructional unit was then implemented and revisions in instructional materials were made. Formative and summative evaluations were conducted in order to determine the effectiveness of instruction at these stages. The sequential process of Instructional Systems Design provided an organized format for the development of this project.

CHAPTER 2

ANALYSIS

Introduction

The analysis stage of ISD is the foundation upon which any instructional system is built. In order to ensure a solid foundation for this project, various types of analysis were conducted and will be discussed in this chapter.

The analysis process began with a needs assessment which determined the descrepancy between actual and desired performance. After identifying the descrepancy, a thorough examination of the instructional goal, or job task analysis took place. This stage of analysis required that the instructional goal be broken down into the many smaller tasks which must be mastered in order to meet the instructional goal.

The target population analysis may have been the most important segment of the analysis process, since its purpose was to present a clear picture of the learners for which the instruction was intended. The target population analysis determined specific information regarding the individual learning needs of these students. Combining this vital information with that acquired through the job task analysis, enabled the designer of this project to effectively select and develop appropriate methods and media for instruction.

Finally, all organizational constraints were evaluated This included determinations of available materials, equipment budget allocations, and time factors. Upon completion of this final step of the analysis stage, a firm foundation for this project was established.

Needs Analysis

The need for instruction on the decision making process initialy presented itself through the lack of decision making abilities displayed by the target population. In order to further verify this need, the designer constructed and distibuted surveys to all professional staff members who worked with these students in some capacity. Those surveyed included: fourteen teachers, two psychologists, two social workers, and two administrators. The purpose of the survey was to determine what percentage of the professional staff working with the target population recognized a lack of strong decision making skills in these students. The results of this survey indicated that ninety percent of those surveyed recognized a definite lack of decision making abilities in the sixth grade population. All participants in this survey expressed the belief that the ability to make decisions is a learned process which should be given more attention in the elementary curriculum. One psychologist noted that many children of this age group often display fear and frustration when faced with an important decision and have great difficulty "thinking through" a problem in order to reach a decision.

The target population was also surveyed in order to ascertain how they viewed their own decision making abilities. The majority of these children indicated that although they believed that they usually make good decisions, they were not comfortable with having to think through a problem. The majority also stated that when faced with an important decision, they would prefer to make a quick decision or let someone else decide for them. Both surveys utilized in the needs assessment can be found in Appendix A.

Job Task Analysis

In this stage of analysis, the designer determined that in order to meet the instructional goal, the learners would need to master sixteen separate tasks. The tasks were then sequenced and grouped in order to most appropriately meet learner needs and classroom time limitations. Since decision making is a sequential process, each task must be completed in a specific order which cannot be varied. The cognitive and affective learning which takes place through each task are prerequisites for the next task in the sequence. A complete listing of all grouped and sequenced tasks is located in Appendix B.

Target Population Analysis

For the purpose of planning effective learning experiences for the target population, a thorough learner analysis was conducted which provided valuable information regarding the reading abilities, math abilities, verbal skills, self-perceptions, and interests of the learners. Reading and math abilities were determined by SAT (Standard Achievement Test) scores. Verbal skills of the students were assessed through classroom observation. Attitudes and interests were determined through a worksheet entitled "All About Me" which was completed by each student.

The target population was twenty sixth grade students at Woodward Parkway Elementary School, Farmingdale NY. The average age of the students was 11.5 years. Of the ten male students, eight were white, one was black, and one was Hispanic. Of the ten female students, nine were white and one was black. A summary of the reading, math and verbal abilities of the target population is shown on Table 1.

Table 1

Summary of Reading, Math and Verbal Skills Of the Target Population

	Reading Skills	Math Skills	Verbal Skills
Percentage of Students Scoring Above Average	25%	20%	25%
Percentage of Students Scoring at Average	65%	60%	70%
Percentage of Students Scoring Below Average	10%	20%	5%

Since the data indicated that two students were reading below grade level, all reading activities will be designed to include one or all of the following:

1. Written material designed individually to meet the needs of those students reading below grade level.

2. All written material to be read and discussed orally prior to any activity.

3. Cooperative learning arrangements where students help each other with comprehension of written text.

One student was observed as having difficulty with verbal expression. As a result, all activities will be designed to give the student the opportunity to choose between oral and written expression.

There was no actual math computation involved in the

instructional plan, however, consideration was given to the fact that decision making is a problem solving process. Each objective was therefore task analyzed in order to accomodate any learner who has difficulty with this type of processing.

The attitude and interest surveys revealed that sports, music, friendship, and pets were the most important topics to this target population. These interests will be easily incorporated into the instructional design to help motivate learners and encourage more personal involvement with the learning materials.

Organizational Constraints

Based on the media selection process described by Anderson (1983), the most appropriate forms of media for this project were printed materials, audio-motion visuals, and human and situational resources.

For the production of printed materials, the designer had daily access to a good quality copier. Audio-motion visuals in the form of videotape, along with all necessary equipment for filming and playback were also available to the designer through Woodward Parkway School. Two video cameras and one VCR were accessible for any three consecutive days. Finally, the human and situational resources recommended by Anderson included: role-play situations, group participation, and case studies. All of these resources were easily incorporated into the instructional system and were unaffected by organizational constraints.

Consideration was given to the fact that in a departmentalized setting, daily lessons would be restricted to a 40-minute time period. This time constraint limited the amount of instruction that could take place each day, and was therefore given serious consideration during the grouping and sequencing of tasks.

Instructional Goal

The instructional goal of this project is to enable sixth grade students to successfully execute the five steps of the decision making process when given a problem which involves making a decision. When instruction has been completed, students will be able to:

1. Identify the problem in a given situation.
2. Identify the problem as a personal, family, or social problem
3. List possible choices for solving the problem.
4. Recognize and list advantages and disadvantages for each choice.
5. Choose one course of action and defend that decision either orally or in writing.

According to Gagne (1985), this instructional goal involves intellectual skills and attitudes. Gagne links discriminations, concepts, and rules as subcategories of intellectual skills. Dick and Carey (1985) classified intellectual skills in much the same way. As stated by Dick and Carey (1985), "Intellectual skills are those that require the learner to do some unique cognitive activity -- unique in the sense that the learner must be able to perform an activity with previously unencountered information or examples. There are four types of intellectual skills: discriminations, concepts, rules and problem solving." The instructional goal for this project is a problem solving task which involves discriminations, concepts, and rules.

This goal can also be classified as attitudinal since it requires that learners make choices and decisions. According to Dick and Carey (1985), "Attitudes are usually described as the tendency to make particular choices or decisions to act under particular circumstances." An integral part of this project asks

the learners to consider their own values and perceptions when making any decision. Gagne (1985) defines attitude as, "...an internal state that influences choices of personal action made by the individual. Attitudes are generally considered to have affective components (emotional), cognitive aspects, and behavioral consequences."

As previously discussed in this chapter, printed material was considered to be an appropriate medium for this type of instruction. When written at appropriate reading levels, printed materials provide information, facts, examples, and practice items. They can be modified to meet individual ability levels and can be checked and discussed whenever necessary. Printed materials can be designed to develop cognitive as well as affective skills, which is an important consideration for this instructional goal.

Audio-motion visuals, in this case video, were chosen to be utilized as a unique form of instruction. Students will have the opportunity to create videotapes which display a fictional problen through to a solution. By writing, creating, and filming the decision making process, students will be reinforcing as well as demonstrating the skills acquired throughout this unit of instruction. This exciting medium can help to develop cognitive, affective, and psychomotor skills while providing motivation and feedback to the learners.

The instructional goal of this project is inherently dependent on human and situational resources. Group discussions, role-play situations, and case studies are essential elements in the teaching of the decision making process. In order to develop the critical thinking skills necessary in decision making, students will need to consider many realistic examples and concrete situations. Listening

to the opinions of those around them can help students evaluate their own feelings more effectively. This type of human interaction is a valuable resource appropriate for all learning domains.

Literature, Existing Course and Material Review

For the purpose of this project, literature was defined as publications which provided resource information and related theory on the topic of decision making. Materials were defined as those publications geared specifically towards classroom use.

All publications related to this topic were reviewed in order to determine what research has been done in the area of decision making at the elementary level and to ascertain if appropriate materials already exist in print. An extensive literature search through the ERIC (Educational Research Information Center) database, located sixty-six publications related to the topic. The identifiers used for the ERIC search were: decision making, problem solving, conflict resolution, at-risk students, elementary education, and drug prevention education. Of the sixty-six publications listed, ten dealt specifically with the subject of decision making, and five focused directly on decision making at the elementary level.

The libraries at New York Institute of Technology, Hofstra University, The State University at Stonybrook, and Dowling College provided additional resources in the form of books and curriculum materials.

Related Theory

Gagne (1985) discussed problem solving and stressed that "educational programs have the important ultimate purpose of teaching students to solve problems." He further stated that

"practice in problem solving of many kinds is bound to be helpful in producing good human thinkers."

In an article which focused on encouraging problem solving and decision making in the elementary classroom, Solomon (1987) pointed out that "as students are taught how to use thinking skills, they will become more competent as independent thinkers and as students." The article strongly suggested that since most thinking skills involve decision making, teachers should find ways to enable students to view themselves as responsible decision makers.

These philosophies become especially pertinent when we consider the needs of the at-risk student. Can the teaching of these types of thinking skills help educators to more effectively address the challenge of helping at-risk students to succeed? It seems that helping at-risk students may mean helping them to become better thinkers, problem solvers and decision makers. In order to accomplish this, the educational experience must include opportunities for students to develop a set of cognitive rules necessary for these types of thinking processes. According to Piaget (1970), "Cognitive strategies require prerequisite intellectual growth in the sense of the maturation of capabilities of logical thought. Learned intellectual skills support this intellectual growth."

These theories strengthen the idea that in order to develop strong decision making abilities, students must be provided with experiences which will enable them to acquire the cognitive strategies necessary to perform this type of intellectual task.

Literature Review

1. **National Education Association. (1988). At-risk students and thinking. Washington, D.C.: Research for Better Schools.**

This collection of research reports focused on teaching cognitive skills to at-risk learners. Each report described various educational trends and questioned whether we are adequately developing thinking skills in at-risk students. An entire section of this publication was devoted to research in teaching problem solving and proposed that American education focus its efforts on further understanding the development of logical thinking as it relates to the at-risk population.

2. **The Matrix Program. (1985). Evaluation of a drug education program. Tucson, Arizona: EDRS.**

This study was initiated based on previous research which claimed a correlation between poor decision making skills and increased drug use later in life. The study intended to determine whether or not a drug program called the Matrix Alcohol and Drug Education Program would actually increase the self-esteem and decision making abilities of the third and fourth grade participants. A measure of self-esteem and decision making was administered before and after participation in the ten-day program. The results of the testing showed that self esteem and decision making scores were higher after participation in this drug education program.

3. **Heiman, M., Slomanko, J. (1985). <u>Critical thinking skills.</u> Washington, D.C.: National Education Association.**

This book describes various strategies for developing thinking skills in elementary students. A section of the book focuses on creating decision making opportunities in the

classroom. Practical suggestions for teachers are offered. The book does not discuss the teaching of decision making as a process.

4. Cliat, M., Shaw, J. (1986). Developing thinking skills in young children. Jackson, MS: State Department of Education.

This article described seven workshops on teaching thinking skills to children in kindergarten through third grade. Workshop #3 focused specifically on decision making, problem solving and concept development. Extensive background information for teachers was provided and stressed the correlation between increased decision making abilities and increased self-esteem in young learners. This workshop outlined many positive methods of encouraging decision making, but did not present any strategies for teaching the decision making process.

5. Morrison, D. (1977). Personal problem solving in the classroom. New York: John Wiley and Sons Inc.

This book presented an approach to solving personal problems in the classroom called The Reality Technique. This technique is comprised of four basic types of involvment: human involvement in general, group-peer involvement, action involvement, and responsible involvement. The basic principle behind this approach was to involve all human resources in any personal problem solving situations. The book outlined ways to introduce this approach to the school and the community, but did not include any type of instructional materials.

6. Clabby, J., Elias, M. (1986). Teach your child decision making. Garden City, NY: Doubleday and Company Inc.

This book presented an eight-step program for parents to teach children of all ages to solve everyday problems and make

sound decisions. The strategy was based on a series of thought provoking steps that provide a framework to help children think effectively and cope with life's everyday challenges. The book outlined the steps of the decision making process and encouraged parents to teach their children these strategies for decision making.

7. Miller, G., Oskam, B. (1984). Teaching your child to make decions. New York: Harper and Row.

The main objective of this book was to provide parents with a more thorough understanding of the characteristics of a good decision maker in order to help them develop these characteristics in their children. Emphasis was placed on helping children establish their goals and values. Each chapter basically comprised a lesson in decision making, and parents were encouraged to become familiar with each "lesson" before applying the information to the teaching of their children.

8. Roberts, J. (1988). Technology and the at-risk student. Electronic Learning, Nov./Dec., 35-49.

This edited transcript of the 1988 Technology Leadership Conference highlighted the existing view that technology can play a significant role in reducing the number of at-risk students. Speakers at this conference discussed the use of computers to help students take control of their own learning, and special emphasis was placed on software that develops problem solving skills. Although computer assisted instruction is not part of the instructional plan for this thesis/project, it is important to note that there is a great deal of problem solving software available which could be utilized effectively in this type of instructional unit.

Survey of Existing Courses and Materials

There is no specific courseware currently being implemented in the Farmingdale School District which teaches sixth grade students the steps of the decision making process. In a search for any materials which might be useful for this project, the designer located numerous workbooks which contained activities for problem solving and decision making. A review of these worksheets revealed that a few of them addressed the steps of the decision making process, however none were specific enough to be incorporated into an entire unit of instruction.

The ERIC database, the Farmingdale Teacher Center and the Hofstra Curriculum Center provided five sources of materials appropriate to the target population. Each of these sources contained materials that were in some way relevent to the topic of this project, however, none were completely consistent with the instructional goal.

1. **Kern County Superintendent of Schools. (1988). ALERT--A substance abuse prevention curriculum for the elementary grades. Bakersfield, CA: U.S. Department of Education.**

ALERT is a substance abuse prevention program which promotes higher order thinking skills through various problem solving activities. Although the focus of this program lies in drug and health education, unit five concentrates solely on making responsible decisions through the decision making process. The unit contains background information for teachers, lesson plans, and reproducible materials for students use. Student materials are well-written and creative, but ask for too much information from the learners at one time. Since this unit is a small part of an entire substance abuse prevention program, the entire decision making process is taught in three lessons. The

information found on each worksheet is therefore too condensed and does not develop each step of the decision making process.

2. **Kearney, A. (1987). ME-ME--Drug prevention education. Appleton, WI: ME-ME Inc.**

ME-ME is a drug prevention program which gears all its activities towards the development of confidence and self-awareness in elementary age children. This is an excellent program which contains modules for both primary and intermediate grades. Of the many self-esteem building activites included in the intermediate module, only a few are designed to promote decision making skills in sixth grade students. These activities do not offer a sequential development of skills, but instead, ask the students to read a case study and then execute the entire decision making process. These materials would therefore be inappropriate to the sequential development of skills outlined in the instructional goal for this project.

3. **Draze, D. (1982). Options--A guide for creative decision making. San Luis Obispo, CA: Dandy Lion Publications.**

This booklet contains various activities through which students in the upper elementary grades can exercise creative decision making. Creatively designed worksheets help students recognize strategies for decision making such as: knowing who to go to for information, considering the needs of others, taking risks, and being assertive. These activities are very useful for the target population, but are more appropriace for use as follow-up activities after specific instruction on the decision making process has taken place.

4. Peale, L., Tade, M. (1988). In a pickle. Chicago: Teaching Links.

This game contains "240" pickle problem solving cards which are designed to encourage class discussion about the problems described on each card. Cards are organized into five groups: Relationships, Health and Safety, Study Skills, Decision Making, and Potpourri. Once again, this useful activity can be used as a supplement to instruction.

5. American Heart Association. (1988). You're in charge. Dallas, TX: National Center.

This set of instructional material was developed to promote self-esteem in students grades four through six. The six worksheets help students recognize whether they are passive or assertive decision makers. The worksheets are intended to provide information for discussion and provide few opportunities for student participation.

Plan for Design and Development Effort

Estimated Student Effort

Estimated student effort is the approximate amount of time and energy each student would be asked to put forth during this project. A student participating in this instructional program would be expected to spend spend eleven hours, or seventeen 40-minute periods working towards the instructional goal. Two 40-minute periods would be devoted to testing, three periods for creating video, and twelve periods for instruction and activity.

Daily effort would involve listening to information given by the instructor, completing required worksheets, and participating

in group discussion and role-play activities. Each student would also be expected to work with a small group on the planning and filming of a video segment which depicts an individual experiencing a problem which involves making a decision.

Project Plan

A major events list was developed in order to illustrate the proposed plan for this project. The first step of the analysis stage would begin on September 30, 1989. The next two months would be spent analyzing the needs of the target population and the goal for this project. When a descrepancy between actual and desired performance was pinpointed, the design and devlopment effort would be initiated. The implementation of this project should take place in the second week of April,1990.

A PERT (Program Evaluation and Review Technique) chart and a Gantt chart were designed to aid in the planning and scheduling of events for the entire project. This chart helped to keep the project on schedule and within budgetary restrictions. The major events list and charts are located in Appendix C.

Budget

The budget for this project was developed based on the prorated salary of the designer and the cost of materials during the 1989-90 school year. The detailed budget is summarized in Table 2.

Summary

The analysis conducted in this stage of instructional systems design laid the groundwork for this project. The needs analysis confirmed the descrepancy between actual and desired performance. The individual learning needs of the students were established through the target population analysis. The instructional goal

Table 2

Project Budget

Expense	Designer Hours	Other Hours	Cost	Subtotal	Total
LABOR					
Analysis	30	0	$600		
Design	30	0	600		
Development	40	0	800		
Implementation	15	100	2,300		
Evaluation	30	0	600		
TOTAL LABOR				$4,900	
MATERIALS					
Videotapes			20		
Printed Materials			30		
TOTAL MATERIALS				$50	
GRAND TOTAL					$4,950

for this project was task analyzed which resulted in the identification of sixteen sub-tasks. It was determined that these tasks involved learning in both the cognitive and affective domains as intellectual and attitudinal skills were being developed.

CHAPTER 3

DESIGN

Introduction

The analysis stage of Instructional Systems Design determined the need for the development of this project on the decision making process. As a result of this determination, the design stage was initiated.

In this stage, the entire instructional plan was evaluated in order to identify specific training needs and appropriate methods of evaluation. All entry behaviors were defined and objectives were carefully grouped and sequenced.

Instructional Task Analysis

During the analysis stage, the instructional goal was defined and a job task analysis was completed. The job task analysis identified four main tasks and twelve sub-tasks that must be mastered by the learners in order to satisfy the instructional goal. As presented in the previous chapter, each of these tasks involve both intellectual and attitudinal skills. Since the decision to develop training has been made, the need to identify the skills involved for each task now exists. The entire instructional task analysis is presented in Appendix D.

Instructional Objectives

"An objective is a description of a performance you want learners to be able to exhibit before you consider them competent. An objective desribes an intended result of instruction, rather than the process of instruction itself." (Mager, 1984) According to Mager, the characteristics that make up an effective objective

are as follows:

1. **Performance**--An objective always says what a learner is expected to do. The objective sometimes states the product or the result of the doing.

2. **Conditions**--An objective always describes the important conditions under which the performance is to occur.

3. **Criterion**--Wherever possible, an objective describes the criterion of acceptable performance by describing how well the learner must perform in order to be considered acceptable.

After the sixteen tasks for this project were identified, the designer wrote objectives for each task using the criterion outlined above.

Instructional Objectives

1.0 Given a written story which describes a problem, students will identify the problem as a personal, family, or social problem and descibe the problem in a short written paragraph.

1.1 In their own words, students will restate the definition of a personal problem. Definition must include that a personal problem involves oneself.

1.2 In their own words, students will restate the definition of a social problem. Definition must include that a social problem involves a society or a group of people.

1.3 In their own words, students will restate the definition of a family problem. Definition must include that a family problem involves one or more members of a family.

2.0 Given a written situation which describes a problem, students will list at least three possible choices for solving the problem.

2.1 In their own words, students will restate the definition of a choice. Definition must include that a choice is an alternative

or an option.

2.2 After a class discussion on "making your own choices," students will state the importance of having their own ideas and opinions.

3.0 After evaluating the three possible choices to solving the given problem, students will list at least three advantages and three disadvantages for each choice.

3.1 In their own words, students will restate the definition of advantage. Definition must include that an advantage is a positive outcome or benefit.

3.2 In their own words, students will restate the definition of disadvantage. Definition must include that a disadvantage is a negative outcome or drawback.

3.3 After listing at least three possible choices for solving the given problem, students will list at least three advantages for each choice.

3.4 After listing at least three possible choices for solving the given problem, students will list at least three disadvantages for each choice.

4.0 After comparing and contrasting each choice for solving the given problem, students will select and defend one choice by listing their reasons for this decision.

4.1 Using the list of choices for solving the given problem, students will discuss the similarities of each choice.

4.2 Using the list of choices for solving the given problem, students will discuss the differences between each choice.

4.3 After a class discussion on "the dangers of accepting the beliefs of others without first considering your own," students will write a one-page essay describing their feeling on this topic.

Entry Behaviors Defined

According to Anderson (1983), "entry behaviors are those skills that enable the student to perform the skills the instructor plans to teach." The designer identified six entry behaviors necessary to perform the steps of the decision making process as it has been outlined in this project.

1. Read a story.
2. Restate a defintion.
3. Compile a list.
4. Participate in group discussion.
5. Compare and contrast information.
6. Write and verbally express ideas.

The target population analysis completed in the analysis stage revealed that the students targeted for this instructional plan did possess these entry behaviors and were therefore prepared for instruction. It is important to note that the instructional plan could be modified to accommodate various handicapping conditions which might hinder a child from written or oral expression. One form of expression could easily be substituted for the other throughout the instructional plan.

Group and Sequence Objectives

The sixteen performance objectives identified in this stage, were grouped and sequenced in a logical order. Since the decision making process has been identified as a set of sequential steps, each objective was sequenced in order to provide the students with the skills necessary to master each step of the process before proceeding to the next step. Since each step is therefore a prerequisite for the next, each objective must be accomplished in a specific order.

Objectives were grouped according to the complexity of the objective and the classroom time factors involved. Various objectives were combined when appropriate for a 40-minute time period. See Table 3.

Learning Activities Specification

According to Gagne (1985), "A theory of instruction should attempt to relate the external events of instruction to the outcomes of learning by showing how these events lead to appropriate support or enhancement of internal processes." As a result, Gagne (1985) correlated nine internal processes with nine instructional events in order to promote optimal learning. In essence, any complete lesson should contain the nine instructional events which help learning occur.

Each learning activity for this project was therefore designed to include Gagne's nine instructional events. A description of how internal processes were supported by instructional events for all lessons is summarized in Table 4.

A matrix was developed to display the method and media selected for each learning activity in the instructional plan. The primary media utilized throughout the instructional plan were printed materials and human and situational resources. The use of these forms of media have various advantages and disadvantages. Printed material can tend to be non-motivating for students, but when coupled with group interaction and human resources, motivation is easily achieved. An obvious advantage of printed materials is the fact that students and teachers can evaluate progress easily and are provided with materials for review. Human and situational resources in the form of group interaction, role-play situations, and case studies are always available and easily tailored.

Table 3

Grouped and Sequenced Objectives

Lesson	Learning Time
Lesson 1 Introduction	40 minutes
Lesson 2 Objectives 1.0-1.3	80 minutes
Lesson 3 Objectives 2.0 2.1	40 minutes
Lesson 4 Objective 2.3	40 minutes
Lesson 5 Review Objectives 1.0-2.3	40 minutes
Lesson 6 Objectives 3.2 3.4	40 minutes
Lesson 7 Objectives 3.1 3.3	40 minutes
Lesson 8 Objective 3.0	40 minutes
Lesson 9 Objectives 4.0 4.1 4.2	80 minutes
Lesson 10 Objective 4.3	40 minutes
Lesson 11 Review entire process Objectives 1.0-4.4	80 minutes

Table 4

Internal Processes and Their Corresponding Instructional Events, with Action Examples

Internal Process	Instructional Event	Action Example
Reception	1. Gaining attention	Use abrubt stimulus change
Expectancy	2. Informing learners of objectives	Tell learners what they will be able to do after learning
Retrieval to Working Memory	3. Stimulating recall of prior learning	Ask for recall of previously learned skills or knowledge
Selective Perception	4. Presenting the stimulus	Display content with distinctive features
Semantic Encoding	5. Providing "learning guidance"	Suggest a meaningful organization
Responding	6. Eliciting performance	Ask learner to perform
Reinforcement	7. Providing feedback	Give feedback
Retrieval and Reinforcement	8. Assessing performance	Require additional learner performance with feedback
Retrieval and Generalization	9. Enhancing retention and transfer	Provide varied practice and spaced reviews

(Gagne 1985)

Table 5

Method and Media Selection Matrix

Objective	Instructional Method	Media
1.0-1.3	Lecture/Class discussion	Printed Material
2.0-2.1	Lecture/Class discussion	Printed Material
2.2	Lecture/Class discussion	Human Resources
3.1-3.3	Lecture/Class discussion	Printed Material/ Human Resources
3.2-3.4	Lecture/Class discussion	Printed Material/ Human Resources
4.0-4.2	Group discussion	Human Resources
4.4	Class discussion	Human and Situational Resources

Assessment System Specification

As part of the instructional plan, assessment will take place through the use of a pretest, daily progress checks, attitude surveys, and a post test.

Attitude Survey

All students participating in this instrucion will complete an attitude survey which asks them to describe their feelings regarding their own decision making abilities. The results of

surveys given before and after instruction will be compared and evaluated in the summative evaluation. See Appendix E.

Pretest

A pretest will be administered before any instruction takes place in order to determine how much prior knowledge and skills the students have. The pretest asks the students to perform the entire decision making process and is designed to indicate where specific strengths and weaknesses lie in reference to this subject matter. Pretest scores will be compared with post test scores during the summative evaluation in order to measure the extent of learning that took place as a result of instruction.

Progress Checks

Individual student progress will be checked each day through the use of written worksheets. Each lesson includes a worksheet which must be completed by each student daily and turned in to the instructor for review and feedback. These worksheets will indicate whether or not the objective for that lesson has been met by each student.

Post Test

The post test is given after all instruction has been completed. This test asks the students to perform the entire decision making process. The results of the post test will indicate whether or not the instructional goal for this project was accomplished. See Appendix E.

Evaluation System Specification

A formative evaluation is conducted in order to assess the instructional content and modify this content where necessary. All data that is collected during the formative evaluation is used to

improve the instructional product.

A one-on-one trial will be conducted to help determine the readability of all printed materials. Through a listing of SAT reading scores, three students will be selected to participate in this evaluation: one student who scored below average, one above average, and one on grade level. These students will not participate in the entire unit of instruction, since the purpose of this form of evaluation is only to measure the readability of all written materials.

A group of ten students of varying reading abilities will be selected to participate in the entire unit of instruction. This small group evaluation will require three weeks of participation. The results of the attitude surveys, pretests, and post tests administered to this group will be described completely in Chapter 6.

Implementation will be conducted with the sixth grade class of twenty students selected for this project. This group will participate in the entire instructional unit. The projected length of time for the implementation of this project is three weeks.

When instruction has been completed, all data collected from pretests, post tests, and attitude surveys will be evaluated in the summative evaluation section. The results will determine the value of the materials for the target population.

Learning Transfer System Specification

The long-term results of this instruction will be determined throughout the remainder of the school year as students apply their decision making abilities in their daily lives. All students participating in this instruction will complete a weekly survey

which asks them to describe how they have used the decision making process that week. The survey will provide the instructor with valuable information concerning learning transfer and will also help the students become more aware of the role that decision making plays in their daily lives.

Review and Selection of Existing Materials

All existing course materials, identified in the analysis stage, were carefully evaluated for possible inclusion in the instructional materials. It was found that none satisfied the needs of the project.

Summary

The design stage of Instructional Systems Design began with a task analysis which identified the four main tasks and twelve sub-tasks required to meet the instructional goal. Objectives for each task were written and then carefully grouped and sequenced. Gagne's nine instructional events were applied to each lesson, and a methods and media chart was developed. The assessment and evaluation procedures for this project were outlined and will be described in full detail in Chapter 6. The instructional plan that was designed in this stage initiated the development of the instructional materials for this project.

CHAPTER 4

DEVELOPMENT

Introduction

During this third stage of Instructional Systems Design, a lesson module was developed and described which would be utilized to develop all the learning activities in the instructional plan. All training materials were then developed reviewed and evaluated for accuracy and appropriateness. All learning materials were edited by the designer and reviewed by three field experts. The development stage resulted in the production of all activities and materials for this project.

Learning Activity Development Scheme

As outlined in the design stage, each lesson was developed according to Gagne's (1985) nine instructional events. In order to ensure optimal learning, the external events of instruction coincide with the internal processes through which learning takes place. A lesson module was created to illustrate the components of each lesson.

1. **Gaining attention**--Each lesson will begin by passing out the "Decision Making Folders" which contain the worksheets completed during each lesson, feedback from the instructor and the motivational chart called "I Am a Great Decision Maker". The motivational chart will provide positive reinforcement in the form of a gold star as each step of the decision making process is mastered. This chart will be placed in each student's folder and returned each day along with completed worksheets. This system will serve to motivate the students as they keep track of their accomplishments.

2. **Inform the learners of objectives**--Each day, the instructor will explain exactly which step of the decision making process will be focused on in the lesson. An overhead transparency will be utilized to illustrate the objectives.

3. **Stimulate recall of prior learning**--The instructor will initiate a discussion on what has already been accomplished towards performimg the steps of the decision making process. Discussion will include references to the lists of previous information which will remain on the blackboard throughout instruction. Lists will include:

a. The problem being discussed.

b. The choices elicited from class discussion.

c. The advantages and disadvantages of each choice elicited from class discussion.

4. **Present stimulus**--All stimulus will be presented orally by the instructor and all aspects will be discussed by the class or in small groups. The discussion will focus on the step of the decision making process to be accomplished in that lesson. Responses elicited from students will be listed on the blackboard and used as part of the stimulus for the next lesson.

5. **Provide learning guidance**--This element may be the most important aspect of each lesson. Throughout each lesson, the instructor must attempt to make the stimulus as meaningful as possible to the students. This effort will support the internal process of semantic encoding. Specific actions for this event will include:

a. Provide concrete examples of real-life situations which will help the learners relate to the information being given.

b. Relate each idea to others already learned. This will

help the students to develop a sensible and meaningful framework of the decision making process.

c. Demonstrate action whenever possible in order to provide vivid descriptions.

Learning guidance is essential to this type of instruction, since the attitudes about decision making being developed are dependent upon the skill and sensitivity of the instructor. It is vitally important to identify and utilize the human and situational resources that are abundantly available.

6. **Eliciting performance**--Although performance will be elicited throughout each lesson through class discussion and group work, every student will complete a written worksheet at the end of each lesson in order to demonstrate individual performance. Learners will be asked to write about the step of the process learned that day.

7. **Providing feedback**--All written worksheets will be checked daily by the instructor and returned to the students in their folders at the start of each lesson. This will provide the students with appropriate feedback regarding their progress. Since they receive this feedback in their folders, all comments remain private between instructor and student.

Those students who successfully complete the given worksheet will receive written praise and encouragement with their returned materials. They will also receive a star on the "I Am a Great Decision Maker" chart.

Those students who do not successfully complete the daily worksheet, will receive written suggestions and review of the skills presented that day. They will find another copy of the worksheet in their folder on which they can try again. Any

student having difficulty after the second attempt, will meet individually with the instructor.

8. **Assessing performance**--This may be somewhat difficult, since making decisions involves very subjective responses. When evaluating student worksheets, the instructor must be willing to accept many different responses and must take into account the personal values and beliefs of the students.

9. **Enhancing retention and transfer**--The daily worksheets will present a different problem than the one discussed as part of the lesson. The purpose of this worksheet is to encourage the transfer of information and skills from one situation to another.

The steps of the decision making process will be reviewed in each lesson in order to enhance retention. In order to execute each step of the process, students will need to refer to and apply the knowledge and skills attained in previous lessons. This aspect of the instructional program will serve to strengthen skills and enhance retention.

Learning Activity Development

Each of the eleven lessons in the instructional unit were developed based on the module described in the previous section. Each worksheet was designed to elicite the performance of a specific skill. The time allotted for the development of materials was originally three weeks, however the actual development time was two weeks. A matrix was developed to illustrate the content and the selected learning materials for each lesson. See Table 6. This matrix can be utilized as a guideline for the instructor. The materials must be used with the lesson specified, as the content of each worksheet deals with the sequential order of the decision making process.

Table 6

Lesson Content and Materials Matrix

Lesson	Content	Materials
Lesson 1	Introduction	Pretest
Lesson 2	Identifying problems	Worksheet #1
Lesson 3	Identifying choices	Worksheet #2
Lesson 4	Values and beliefs	Worksheet #3
Lesson 5	Review	Worksheets 1-2-3
Lesson 6	Advantages of choices	Worksheet #4
Lesson 7	Disadvantages of choices	Worksheet #5
Lessons 8 & 9	Comparing advantages and disadvantages	Worksheet #6
Lesson 10	Having own opinions	Worksheet #7
Lesson 11	Review	Post test

The following criterion was utilized in the development of all learning materials:

1. Does it address the objective?
2. Is all written information clear and concise?
3. Are descriptions detailed enough to provide understanding?
4. Are requests for student response clear?
5. Have embedded test items been included?

Pretest

The pretest given to the students in the first lesson is designed to measure the extent of previous knowledge and skills possesed by the students in regard to the decision making process. The test asks for definitions of: choice, advantage, disadvantage, personal problem, family problem, and social problem. It describes a decision situation and asks the students to perform the steps of the decision making process.

Post Test

The post test is identical to the pretest in content and format. Its purpose is different in that it intends to measure whether or not the students have achieved the instructional objectives for this project.

Attitude Survey

An attitude survey was developed to aid in determining how the learners felt about their own abilities to make decisions. The survey consisted of eight questions concerning decision making that require a "yes" or "no" response. This survey will be administered before and after instruction in order to evaluate any attitudinal changes that may take place as a result of instruction.

Motivational Chart

The "I Am a Great Decision Maker" chart was developed in order to provide motivation and positive reinforcement to the learners. The chart contains five blank star spaces which will be replaced with gold stars as each step of the decision making process is successfully completed.

Learning Activity Review

The completed package of materials was initially reviewed by the designer for appropriate vocabulary, correct grammar, spelling, and punctuation. One English teacher, one social studies teacher, and one typing teacher reviewed the completed package of materials for accuracy and age appropriateness of content. As a result of this review process, all materials were revised according to recommendations made.

Materials for Evaluation Produced

Fifteen copies of the materials were produced to provide one

set for each of the three students participating in the one-on-one trials and one set for each of the ten students participating in the small group trials. Two extra sets were produced for designer usage.

Summary

A lesson module which was utilized in the development of each learning activity was thoroughly described in this chapter. Gagne's nine instructional events were utilized as a guideline in the development of this module.

All materials produced at this stage were edited by the designer and submitted for review to three subject matter experts. As a result of this thorough evaluation process, all learning materials were revised according to recommendations made, and fifteen copies were produced to be utilized during the formative evaluation.

CHAPTER 5

IMPLEMENTATION

Introduction

During the implementation stage, the instructional plan was put into action. The implementation of the entire instructional plan took place over a period of three weeks. The twenty sixth grade students making up the target population participated in the entire unit of instruction. All data collected during implementation was utilized in the summative evaluation.

Materials for Implementation Reproduced

After final revisions were made, twenty-five copies of the learning materials were reproduced for implementation. This included twenty student copies, one instructor copy, and four extra copies. See Appendix F.

Instructional Delivery

Instructional delivery for the implementation took place in the designer's classroom at Woodward Parkway Elementary School. The implementation began in the first week of May and was conducted for three weeks. These dates are one week later than specified on the Gantt chart in Appendix C.

Lesson 1: Introduction

This lesson began with giving the students the pretest. Students worked independently and were encouraged to do their best and not to worry about passing or failing. When the pretest was completed, the lesson continued with a discussion about the many types of decisions we make each day. Questions for discussion included:

1. What kinds of decisions do we make each day?

2. What kinds of decisions do your parents have to make each day?

3. What kind of action can we take when we have difficult decisions to make?

The objectives for this project were then explained to the students. They were told exactly what skills they would be able to perform after instruction. The "Decision Making Folders" were distributed, and students were told that all written work would be returned to the instructor each day in this folder. The motivational chart system was explained at this time.

Lesson 2: Identifying Problems

This lesson began with a discussion on the differences between personal, family, and social problems. Examples for discussion included:

1. A boy who has had a fight with a friend is experiencing a personal problem.

2. A girl whose parents are getting a divorce is part of a family problem.

3. Teenagers who take drugs in school are part of a social problem.

Students were then presented with the decision situation which would be discussed in each lesson.

The New Student

On Monday morning, Mrs. Roberts brought a new student into the classroom. Her name was Nancy. Mrs. Roberts asked Kim if she would show Nancy around the school to help her learn her way around. Kim was happy that Mrs. Roberts chose her for the job and was glad to be able to help out the new student who looked very worried about her first day in a new school.

As the girls toured the school, they talked about where Nancy had moved from and what kinds of things she liked to do. Nancy admitted to Kim that she was very nervous about making new friends and being accepted in this new school. Kim decided to ease some of Nancy's worries by inviting Nancy over to her house after school. The worried look suddenly disappeared from Nancy's face, and she happily accepted the invitation.

Later on that day, Kim's friend Jessica approached her in the hallway. Jessica said excitedly, "I hope you didn't forget about coming over this afternoon to help me write the invitation list for my party. We'll have to get started right after school, because I have dancing lessons at 5 o'clock. I can't wait! See you after school!"

Kim had forgotten all about her promise to Jessica when she invited Nancy to her house after school that day. What was she going to do?

A class discussion followed, and students were asked to identify the problem in this story.

Lesson 2: Identifying Problems continued

The class reviewed the problem situation presented the previous day.

1. What type of problem is Kim experiencing?

2. Have you ever been in a similar situation?

After discussion, students were given Worksheet #1 to complete independently. The worksheets were then collected in their folders. The problems presented on the worksheets were then discussed as a class.

Lesson 3: Identifying Choices

All folders were returned. Class discussion focused on identifying choices in a decision situation. A definition of <u>choice</u> was given: a choice is a decision between two or more options. Kim's problem was then reviewed, and students worked in small groups brainstormimg to create a list of choices that Kim had in her decision situation. Lists were then discussed as a class.

Students then completed Worksheet #2 which were collected in

folders.

Lesson 4: Opinions and Beliefs

All folders were returned. Class discussion focused on the importance of having your own opinions and beliefs. Emphasis was placed on the various people and things in your life which may influence your opinions.

Students then completed Worksheet #3. A discussion of the Decision Wheel presented in this worksheet followed.

Lesson 5: Review

All folders were returned. The overhead projector and the Decision Making Process transparency were utilized to review steps one and two of the decision making process. Students used the worksheet that matches the transparency to fill in the steps they had already completed.

The steps that would follow were discussed and objectives were outlined again.

Lesson 6: Advantages of Choices

This lesson focused on the advantages of choices that we make. Discussion emphasized that advantages are positive outcomes or something that you would like to have happen as a result of a choice made.

Students reviewed the choice lists developed in Lesson 3. In small groups, they brainstormed to create a list of advantages for each choice. Lists were then discussed as a class.

Worksheet #4 was completed by each student and submitted in the folder to the instructor.

Lesson 7: Disadvantages of Choices

This lesson followed the same format as Lesson 6. Discussion

focused on the idea that a disadvantage is a negative outcome or something that we would not like to happen as a result of a choice made.

Students completed Worksheet #5.

Lessons 8 & 9: Comparing Advantages and Disadvantages

Class discussion emphasized that when making a decision, we need to evaluate all choices by considering the advantages and disadvantages of each choice. This is not always easy to do.

In small groups, students discussed Kim's choices and compared the advantages and disadvantages of each choice. In conclusion, each group planned out a role-play which demonstrated the course of action they believed to be best for Kim.

Each student then completed Worksheet #6.

Lesson 10: Dangers of Being a Follower

Discussion emphasized the dangers of accepting the beliefs of others without considering your own values and beliefs first. Focus was placed on various forms of peer pressure and the strategies that can be used to avoid becoming a follower.

As a concluding activity to formal instruction, students received their final star on the "I Am A Great Decision Maker" chart and completed the last sentence on the chart which says, "I am a great decision maker, because now I can..."

All charts were then displayed on the bulletin board.

Lesson 11: Review and Post Test

An overhead transparency was utilized to review the steps of the decision making process. The transparency exhibited the steps of the decision making process, and the student worksheet identically matches the transparency. As the class reviewed the

steps projected on the screen, the students filled in their matching worksheet with the choices they had made.

The post test was given to all students.

Lessons 12-15: Video Production

The enrichment activity for this unit was the planning and production of a student-created video which depicted a decision situation. Students were given story board worksheets on which to plan the five-minute video segment. The following guidelines were given:

Planning the story

1. Story must involve one or more persons experiencing a problem.
2. Story must demonstrate how the character(s) think through the problem. Consider filming the decision making chart or show a discussion of possible choices.
3. Story must show the course of action selected.

Taping the segment

1. Scene can be filmed in the classroom or on the playground.
2. Camera must remain on the tripod at all times!
3. Characters speaking should not turn their backs to the camera. Speak loudly enough to be heard on the tape.

The completed videos were displayed and discussed by the class. Since these children have had previous experience with video production in past activities, they needed little preparation beforehand.

After viewing each video, the students completed the attitude survey which was collected for evaluation.

Data Collection

Throughout the implementation process, data was collected for

the summative evaluation through the following sources:

1. Pre-instructional attitude survey
2. Pretest
3. Post Test
4. Post-instructional attitude survey

All data and information collected through these sources is evaluated in the summative evaluation section of Chapter 6.

Summary

The implementation of this project occurred one week later than originally planned due to scheduling conflicts. Implementation began in the second week of April, 1990 and was conducted for three full weeks.

This chapter described the instructional delivery of each lesson in the instructional plan. Data collection procedures were listed, and all data was collected for the summative evaluation.

CHAPTER 6

EVALUATION

Introduction

Evaluation is the essential process of determining the effectiveness of all aspects of the instructional program. In actuality, a variety of evaluation methods are used throughout instructional systems design as the designer conducts the learner analysis, develops materials, and develops the instructional strategy. This ongoing process does and should continue beyond the boundaries of this project as it is utilized in the classroom.

This chapter focuses on and thoroughly describes the formative and summative evaluation processes. Each type of evaluation has a unique, yet specific purpose in this project.

Formative Evaluation

Dick and Carey (1985) stated that, "Formative evaluation is the collection of data and information during the development of instruction which can be used to improve the effectiveness of instruction." The revisions made after the one-on-one and small group trials were intended to improve the final product used for implementation.

Due to the fact that this project was designed and implemented by a classroom teacher in a school setting, the number of students available for participation in the evaluation process was limited. As a result, the one-on-one trial was conducted with three students, the small group trial was conducted with ten students, and the target group of twenty students were needed for the implementation of this project. Although the limited number of students precluded the designer from conducting a pilot test, the

data and information received through the one-on-one and small group trials were more than sufficient for making effective modifications in methods and materials.

One-on-One Trials

Since the majority of the instructional program involves group work and class discussion, it would be impossible to implement the entire unit to just a few students. Therefore, the students selected for this evaluation process did not receive instruction as described in the implementation section. The one-on-one trials were conducted in order to determine the readability of all written materials. Three students were selected through an examination of SAT reading scores: one student scored below grade level, one student scored on grade level, and one student scored above grade level.

The students sat individually with the designer and were asked specific questions as they read through each set of written materials. Questions included:

1. Can you explain what this paragraph is describing?
2. What does the question ask you to do?
3. Can you tell the story you have just read in your own words?
4. Can you point to any words that seem confusing or difficult to understand?

As each student was tested individually, the designer took written notes of all responses and reactions. The results and modifications made were described in separate categories.

Sentence structure--Sentences were shortened and context clues were added to improve comprehension. Polysyllabic words were replaced by monosyllabic words where the need was indicated.

Example: Worksheet #1

Original: Matt is having difficulty in math.

Revised: Matt is having trouble with division of fractions.

Clarity of text--More explanation was given where students indicated confusion or indecision regarding directions.

Example: Worksheet #3

Original: Section off the decision wheel to indicate the percentage of decision making power you have yourself and the percentage of power that you give to others.

Revision: Color in red the number of sections on the Decision Wheel which indicate your own decision making power. Then use the color chart below to indicate the power that other people have in the decisions that you make.

Example: Worksheet #5

Original: A disadvantage is a negative outcome.

Revision: a disadvantage is a negative outcome or something that you would not like to happen as a result of a choice that you have made.

Example: Worksheet #6

Original: After you have reviewed your list of Mary's choices and have considered the advantages and disadvantages, answer the following questions.

Revision: Read the list of Mary's choices that you wrote on Worksheet #2. Read through Worksheets #5 and #6. Think about the advantages and disadvantages you have listed for each choice. Now, answer the following questions.

Interest of materials--Boredom was a serious consideration. Student expression, body language and verbal feedback revealed that the written materials were not visually exciting.

Revision: Graphics were added to each worksheet to stimulate interest. Larger fonts were used in place of smaller ones for headings and titles.

Small Group Trials

All written materials were revised after the one-on-one trial to be implemented in the small group trial. Ten sixth grade students were selected for this evaluation. They participated in the entire unit of instruction as outlined in Chapter 5. Students chosen were similar to the target population in ability and age. See Table 7. All students completed the pretest, post test, and attitude survey.

These students were encouraged to verbalize any problems they experienced with written materials or with classroom methods. The revisions made as a result of the one-on-one trials proved to be effective, since there were no problems in reference to written materials. Modifications in instructional delivery were made as a result of observation of group activity and student feedback. Each problem area and the necessary changes made are each described separately.

Small group work--The designer and the students recognized problems which arose when the students were asked to work in groups (groups were arranged by the instructor to include three or four students per group). Conflicts arose over who would prepare the group list and who would read the group list to the rest of the class when asked to do so. This problem was easily remedied by appointing a daily group chairperson. The rotating chairperson position seemed to please all students and eliminated conflict between them.

Decision making folders--Students requested that they be allowed to decorate and personalize their individual folders. Naturally,

Table 7

Age and Reading Ability of Students in Small Group Trials

Student	Gender	Age	Characteristics
1	F	12	Average reading ability
2	F	12	Below average reading ability
3	M	11	Average reading ability
4	M	12	Average reading ability
5	F	11	Above average reading ability
6	M	12	Average reading ability
7	F	12	Below average reading ability
8	F	12	Above average reading ability
9	M	12	Average reading ability
10	F	11	Average reading ability (Determined by SAT scores)

the designer readily agreed to this creative endeavor. The students drew pictures of conflict situations and wrote interesting words pertaining to decision making on the folders.

This change not only helped to make this topic more personal to each student, but it also generated a great deal of enthusiasm at the start of instruction.

Motivational chart (I Am A Great Decision Maker)--The designer realized that some of the students who did not successfully complete the daily worksheet displayed anxiety about making the necessary revisions on their paper in order to be receive their star. Therefore, the designer made corrections and suggestions on these worksheets before the students went home for

the day. This provided them with the opportunity to successfully complete the worksheet for homework and receive their star the next morning. This minor change helped to keep all students happy and motivated.

Video production--One group experienced a problem deciding between two story lines for their video segment. A class discussion was initiated which focused on the idea that everyone solves problems according to their own ideas and beliefs. The students were encouraged to utilize what they had learned about the decision making process to solve this problem. The group weighed all the advantages and disadvantages of each choice and came up with their own decision. The designer noted this method for future use.

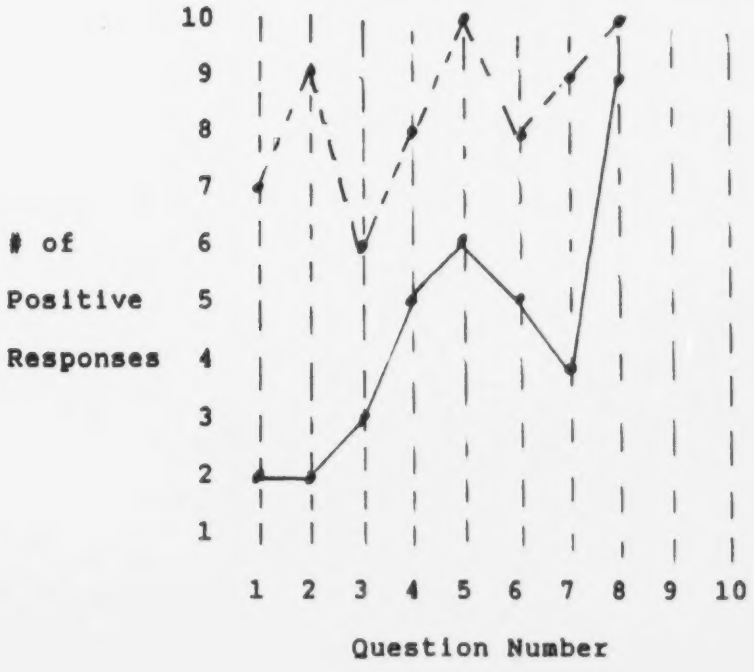
Another change which surfaced during video production involved displaying the completed segments to the group. The designer discovered that stopping the segment before the solution was displayed allowed the rest of the class to predict the outcome. This provided the opportunity for reinforcement and added excitement to each presentation.

The results of the attitude survey, pretest, and post test aided in determining the effectiveness of the revised methods and materials.

The attitude survey was completed by each student in order to determine how they felt about the decision making process before and after instruction. Responses reflected either a negative attitude or lack of confidence in this area, or a positive attitude which indicated confidence in decision making.

Figure 1 shows the relationship between the number of positive responses before instruction and the number of positive responses after instruction. As the figure clearly indicates, the students

Figure 1 **Small Group**
Comparison of Positive Responses on
Attitude Surveys Before and After Instruction



_____ Represents Attitude Survey responses before instruction.

---------- Represents Attitude Survey responses after instruction.

demonstrated a much more positive attitude toward the decision making process after instruction than they had before instruction took place. The solid line shows a very low number of positive responses while the dotted line reveals a dramatic increase in the number of positive responses to all questions on the survey.

Pretest

A pretest was administered to this group in order to determine the extent of their knowledge and skills on the decision making process prior to any instruction. The tests were graded on a scale of 1-10, one being the lowest possible score and ten being the highest. Two students received scores between 6-7, five

Table 8

Small Group Test Scores

Student	Pretest Score	Post Test Score
1	5	9
2	3	7
3	6	8
4	5	7
5	6	9
6	4	8
7	4	9
8	3	7
9	5	10
10	5	9
MEAN	4.5	8.2
MEDIAN	5	8.5
MODE	5	9
STANDARD DEVIATION	1.02	1.09
T=	3.93	

students received scores between 4-5, and two fell between 2-3. The mean score in this case being 4.5, indicated that the students did very poorly on the test.

These scores clearly indicate a general lack of knowledge and skills regarding the performance of the decision making process. The bell curve in Figure 2 graphically demonstrates these low scores.

Figure 2

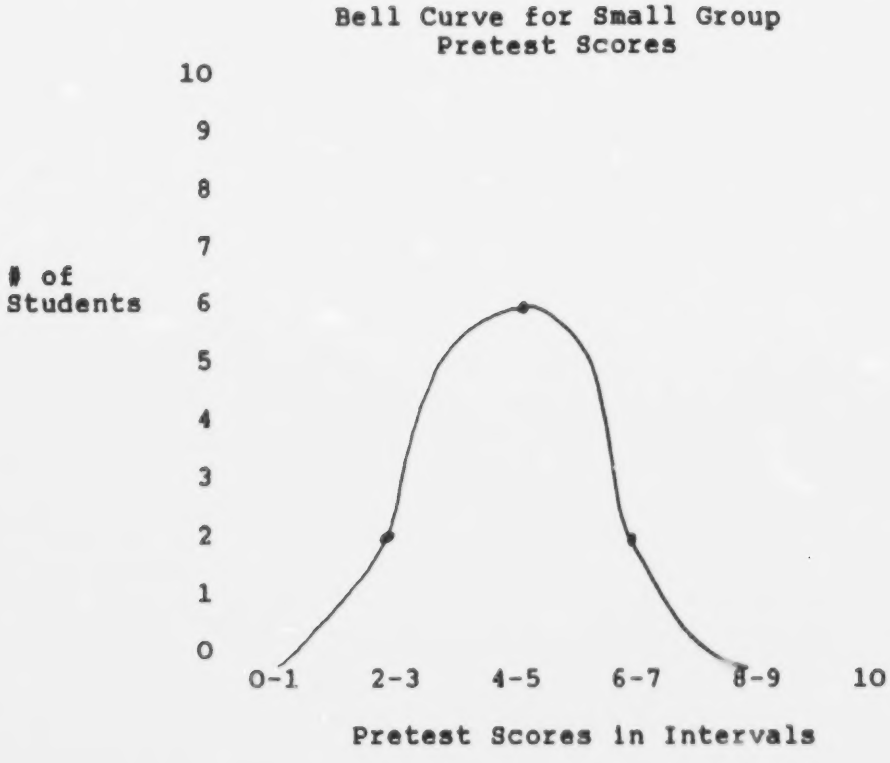
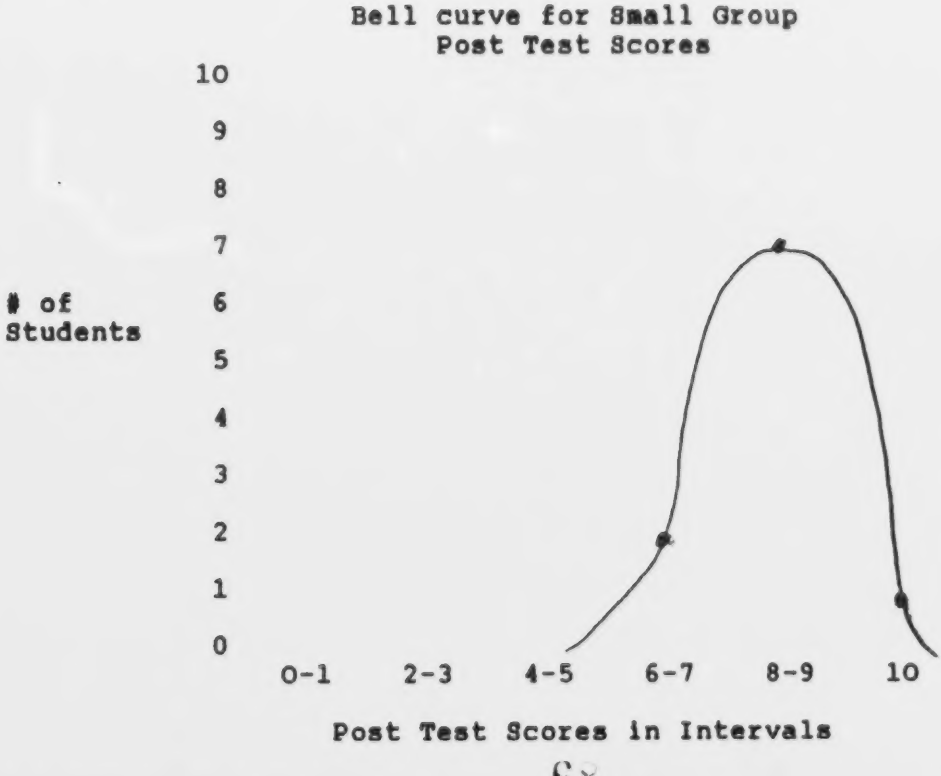


Figure 3



Post Test

As indicated in Table 8, student scores improved greatly on the post test. The post test was intended to determine if learning had taken place and whether or not the students had met the instructional goal for this project. The correlated T-Test score indicated in Table 8, shows that T=3.93. With the critical value of T at .05, the level of significance need only be 1.83 to indicate that significant learning had indeed taken place.

Further Revisions

The changes in materials made after the one-on one trials and the changes in methods made during the small group trials proved to be quite effective since the small group test scores showed that performance was high as a result of instruction. No further changes were made at this time.

Summative Evaluation

Acccording to Dick and Carey (1985), "Summative evaluation may be defined as the design, collection and interpretation of data and information for a given set of instruction for the purpose of determining the value or worth of that instruction." All data and information collected during implementation was, therefore, evaluated for this purpose. Kirkpatrick (1987) describes four logical steps to follow for this evaluation. These steps are: reaction, learning, behavior, and results.

Reaction

Responses to the attitude survey given after instruction indicated that the students involved in implementation gained a very positive attitude toward the decision making process. Their responses demonstrated a desire to handle problems on their own.

In fact, in response to question 10, "Do you think it is important to learn how to make good decisions?", 100 percent of the students answered "yes" after instruction. A comparison of the attitude surveys given before and after instruction can be found in Figure 4.

Students were asked oral questions about how they liked the instructional materials. The students felt that the worksheets were enjoyable and the star chart was a great way to show progress. The students expressed strong positive feelings toward the group and class interaction that took place. They enjoyed having the opportunity to learn from each other and interact with the instructor in a relaxed atmosphere.

By far, the most positive response was toward the video production. The students verbally expressed the pleasure they received through having the opportunity to plan and produce a real video. They felt a strong sense of responsibility when being trusted with an expensive video camera.

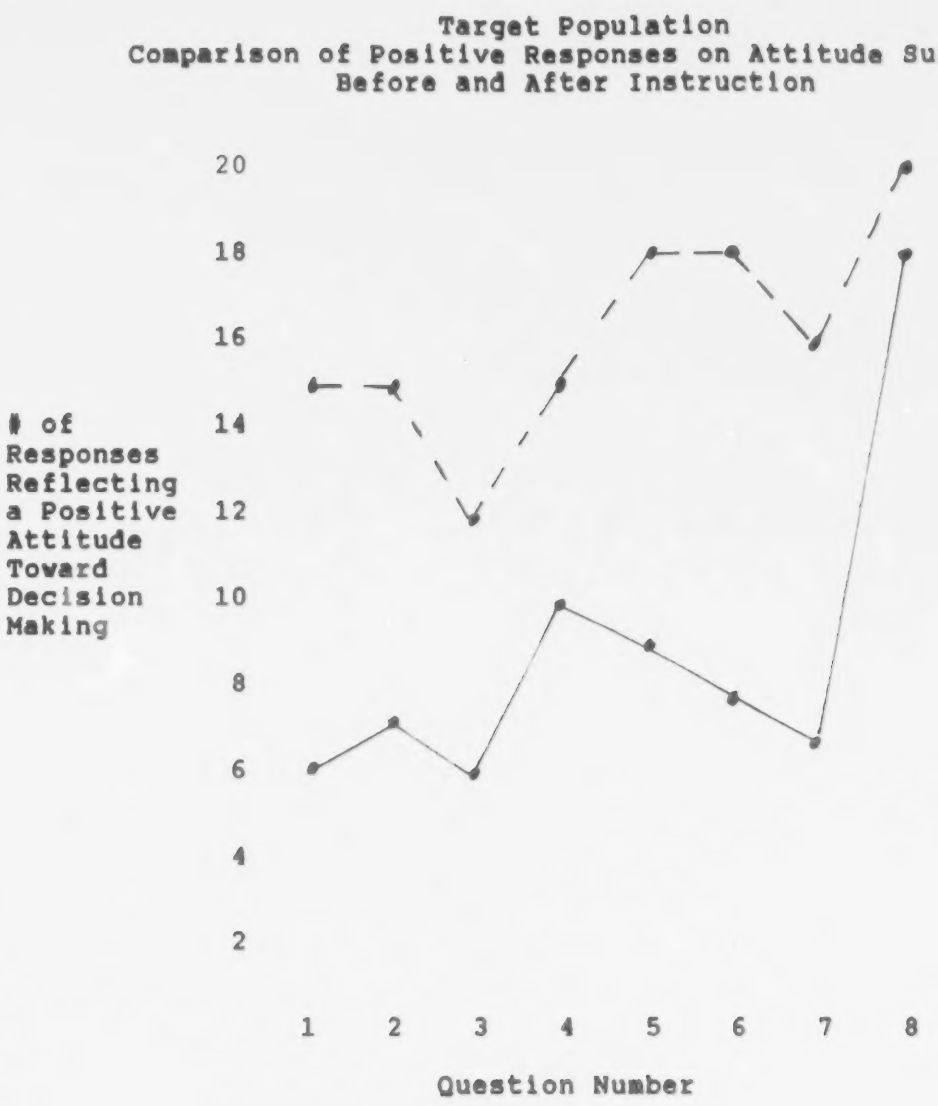
In general, the student reaction to the topic and to the instruction itself was very positive. They not only learned, but they enjoyed doing it along the way.

Learning

It is important to remember that a positive reaction does not ensure that learning has taken place. The designer used the results of the pretest and post test to evaluate learning. In addition, daily progress checks provided ongoing evaluation of the students' work.

As indicated in Table 9 and Figures 5 and 6, the post test scores were much higher than the pretest scores. This drastic improvement indicates that as a result of instruction, students

Figure 4



gained the knowledge and skills necessary to perform the steps of the decision making process. The mean calculated for the pretest was 4.5 as compared to the mean for the post test which jumped to 8.2. These high scores imply a strong understanding of the decision making process by the majority of the students.

Table 9

Target Population Test Scores

Student	Pretest Scores	Post Test Scores
1	4	7
2	3	7
3	5	8
4	4	7
5	5	9
6	5	9
7	7	10
8	6	10
9	3	6
10	3	7
11	4	8
12	3	8
13	5	9
14	5	10
15	3	7
16	7	10
17	5	8
18	5	9
19	4	9
20	4	8
MEAN	4.5	8.2
MEDIAN	4.5	8.0
MODE	5.0	9.0
STANDARD DEVIATION	1.4	1.3

T= 2.34

Figure 5

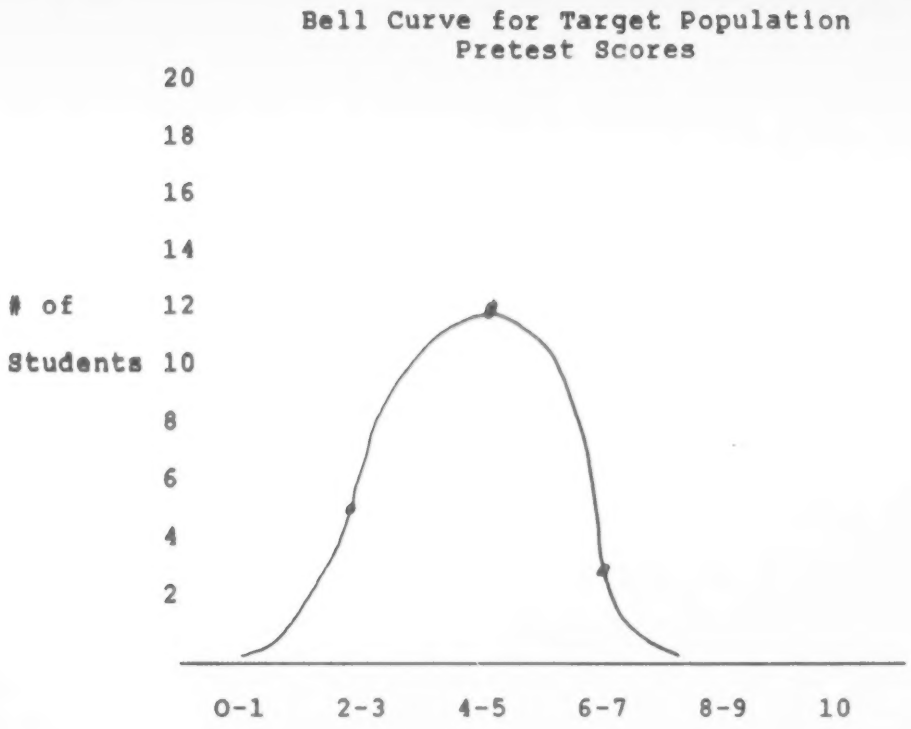
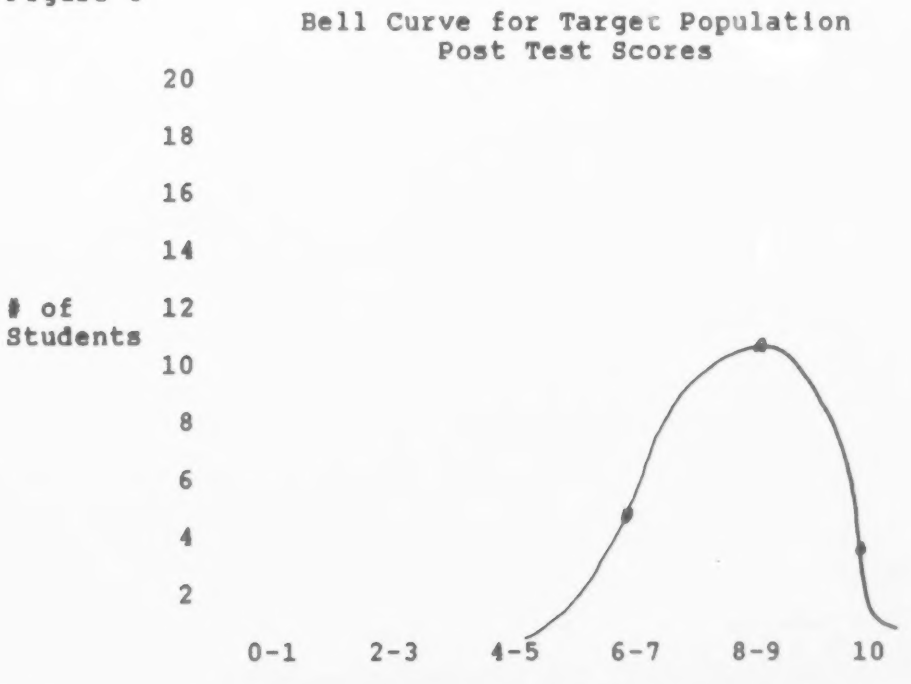


Figure 6



The students also demonstrated their acquired skills and knowledge through worksheets completed each day. Every student involved in the implementation of this project successfully completed all the worksheets required. Additionally, students demonstrated their knowledge of the decision making process through the planning and production of a videotape which depicted a problem through to its solution. This requirement was successfully accomplished by each student demonstrating, once again, their ability to apply the decision making process.

Behavior

A comparison of the behavior of the target group before and after instruction indicates that students who previously demonstrated little ability to solve problems were now able to identify choices, list advantages and disadvantages for each choice, and give a rationale for the course of action selected. Students demonstrated these behavior changes throughout all group and class activities.

The designer plans to evaluate changes in behavior after instruction through a weekly decision making survey. Each week following the conclusion of this project, students will be asked to describe how they have used the decision making process that week in their daily lives. This information will provide the designer with information regarding long-term behavior changes as well as developing student awareness of decision making in their daily lives.

Results

Some of the results of this instruction can be observed immediately, and some of the long-term results will be evaluated by the designer long after instruction has been completed.

Whether or not these results will continue throughout the lives of these students cannot be determined in this type of school setting. The children will move on to junior high school, and the designer will no longer have daily contact with them. It is the designer's hope that the positive results observed in the weeks following instruction will continue to help these students as they are faced with important decisions throughout their lives.

The designer has already determined that in general, the students who participated in this instruction exhibit a stronger desire to solve problems that arise in the classroom each day. They tend to encourage each other to consider all possible choices before making any important decision.

Results of this instruction will be determined throughout the rest of the school year as students apply their decision making abilities in their daily lives. Data will be collected through the use of a weekly survey which asks the students to describe if and how they have used the decision making process that week. Questions will include:

What types of decisions have you made this week?

What choices did you consider when making these decisions?

How has the decision making process been utilized in our classroom this week?

The answers to this survey will provide the designer with important information regarding long-term results and will also help to develop an awareness within the students of the role that the decision making process plays in their daily lives.

Learning Transfer

In order to increase the value of any instructional project,

the designer must take steps to ensure that what has been learned by the learners will be utilized in the learner's environment. If the knowledge and skills acquired through instruction are not applied afterwards, then the instruction may prove to be a wasted effort.

According to Broad (1988), there are specific actions which should be taken by the instructor and the learners before, during, and after instruction which can help to ensure that the transfer of learning occurs. Broad (1988) has developed an extensive checklist of recommended actions. The designer of this project utilized the headings given on this checklist in order to evaluate the learning transfer methods and considerations directly related to this project.

ACTIONS TAKEN BEFORE INSTRUCTION, BY THE TEACHER

The instruction design process was followed to identify specific outcomes. Appropriate methods and media were selected for this instruction, and evaluation methods were carefully planned and implemented throughout the project.

ACTIONS TAKEN DURING INSTRUCTION, BY THE TEACHER

Students were involved in the process of recognizing the need for this instruction through surveys of their own feelings and discussion of these surveys. The designer emphasized the performance objectives before instruction to increase awareness of the skills each learner will acquire as a result of instruction.

Learners were encouraged to visualize the benefits of these acquired skills and were given individualized feedback throughout instruction. The students used various performance aids (worksheets, charts) to encourage recall and use of skills.

Information collected for the summative evaluation was diagnosed in four areas: reaction, learning, behavior, and results. This evaluation intended to determine the value or worth of this instruction for the target population. All test results indicated that learning had taken place and that the students involved had developed positive attitudes toward the decision making process. Learning transfer systems, which are vitally important considerations for all instructional programs, were described and future considerations were included.

CHAPTER 7

SUMMARY AND RECOMMENDATIONS

Introduction

This chapter provides an overview of the entire project described in this document. All the steps of instructional systems design utilized in this instructional project are summarized in the order in which they took place. This chapter concludes with recommendations for other designers or instructors who may choose to utilize the information given in this document in another instructional setting.

Methods and Procedures Used

This instructional project was developed according to the Interservice Model of Instructional Systems Design (ISD). All methods and procedures were based on the five stages of ISD: analysis, design, development, implementation, and evaluation.

Analysis

In order to determine the need for this project, the designer conducted a task analysis, target population analysis, and an analysis of organizational constraints. Based on information attained through various surveys, a need for instruction on the steps of the decision making process was identified.

The target population was identified as twenty, sixth grade students who were lacking the skills and abilities to perform the decision making process. The instructional goal was developed. After careful evaluation of the goal, four main tasks and twelve sub-tasks were identified. Objectives were written for each task.

Printed material, audio-motion visuals, and human and

situational resources were selected as the most appropriate forms of media for this project. Each medium was analyzed in order to determine all benefits and drawbacks.

A major events list and a time line were developed in order to keep this project on schedule and within budgetary limitations.

Design

In the design stage, all entry behaviors were defined and objectives were logically grouped and sequenced. Gagne's nine instructional events served as a foundation for the planning of all learning activities. These events were utilized to ensure that optimal learning would take place in each lesson.

The formative and summative evaluation processes were designed and specified in this chapter. It was determined that a one-on-one and small group trial would be conducted to meet formative evaluation requirements and that data would be collected during implementation for the summative evaluation. A pretest, post test, and attitude survey was administered during implementation, and the results of these measures were evaluated in the summative evaluation section.

Development

A lesson module was developed based on Gagne's nine instructional events which was later utilized in the development of all learning activities for this project. The first draft of the learning materials was produced and reviewed by the designer and three subject matter experts.

Revisions in materials were made and fifteen copies were produced for the formative evaluation.

Implementation

The detailed results of the formative evaluation were utilized

to modify all materials and methods before implementation. Twenty-five copies of the revised materials were then reproduced for the target population. Implementation began in the second week of April, 1990 and was conducted for three weeks.

Specific actions were taken during implementaion to ensure learning transfer. The students and the designer enjoyed and learned from this educational experience.

Evaluation

The formative evaluation process began with a one-on-one trial involving three students. The purpose of this evaluation was to test the readability of all written materials. Information and data gathered through this testing procedure was used to revise all written learning materials before implementation. A small group evaluation was then conducted with a group of ten students who closely matched the target population in age and ability levels. This group participated in the entire unit of instruction. Based on student feedback and instructor evaluation, modifications were made in various methods and approaches.

In order to determine the value of the instruction for the target population, a summative evaluation was conducted. All test results and attitude reactions were analyzed and discussed in four categories: reaction, learning, behavior, and results. The summative evaluation clearly determined that the students had met the instructional objectives defined for this project.

Learning transfer systems were also evaluated which is a process that will continue beyond the scope of this project. Various learning transfer specifications which were not utilized in this project were noted for future reference.

Conclusions

The test results achieved through this project proved that the students had learned to perform the steps of the decision making process. They demonstrated their ability to analyze problems and choose logical courses of action. The fact that they had gained the knowledge and the skills to carry out these cognitive processes helped to foster more positive attitudes towards problem solving and decision making in general.

As a result of this instruction, the participants seemed much more willing to confront daily problems. Their new-found confidence empowered them to look within themselves for answers to problems that may have once seemed impossible to solve. These attitudinal changes not only helped to verify the value of this instuctional project, but also served to highlight the need for instruction which can empower students to overcome obstacles and take control of the situations around them.

The instructional plan had many benefits. A great deal of interaction took place between the instructor and the students. This helped to generate a positive and fruitful environment. The students had many opportunities to work cooperatively which fostered a sense of interdependence between them. Learning groups encouraged the students to listen to each other's opinions in the process of forming their own. The value of this type of learning cannot be measured in numbers.

It is fair to conclude that this project was very successful in that it achieved its goal. The designer can only hope that the personal achievements of each student involved will play some part in helping them achieve their goals in the furure.

Recommendations

1. This project was intended for use with the target

population specified and in the instructional setting described. The designer recommends that a thorough analysis process be conducted before utilizing any of these materials as they currently exist.

2. All students participating in this instructional project must be prepared in advance for the video production activities. This may include a few weeks of formal instruction on planning and producing videotape. Without this preparation, students may not be capable of producing a valuable final product.

3. Set up many opportunities for learning transfer to occur.

4. Develop follow-up lessons to reinforce skills and encourage learning transfer.

5. If possible, allow writing to be done on the computer. Students enjoy and benefit greatly from word processing programs.

6. Investigate the problem solving and decision making software that exists on the market. There are many useful programs that can develop and strengthen these important skills in students of all ages.

Concluding Statement

As today's youth are faced with many important and difficult decisions, so too are all educators. If we truly care about helping the young people of today meet the challenges of tomorrow, then we must take part in the development and selection of curriculum materials which address the real needs of these students.

Many educators are aware of the reality and the urgency of the challenges we face. When children in elementary school are asked to make choices about drugs and sex and crime, the challenge is not only theirs, it is ours too. By teaching young people how to

evaluate information, we give them strength. By showing young people how to think logically, we give them power. Most important of all, by giving young people the chance to gain confidence in their abilities, we give them the opportunity to reach their full potential.

Appendix A

Surveys

Attitude Survey

Answer the questions below by checking the box which best describes your feelings.

	YES	NO
1. Do you feel scared when you have to make an important decision?	☐	☐
2. Is it sometimes difficult to make important decisions?	☐	☐
3. Do you enjoy figuring out problems?	☐	☐
4. Do you feel that the decisions you make are usually good ones?	☐	☐
5. Do you think about all your choices before making any decision?	☐	☐
6. Do you think you are a good decision maker?	☐	☐
7. Would you rather have someone else make important decisions for you?	☐	☐
8. Do you think it is important to learn how to make good decisions?	☐	☐

Use this space to write anything you think or feel about making decisions and solving problems.

NAME:_____

POSITION:_____

This is a survey which is intended to help determine if there is a need to develop decision making skills in the sixth grade students.

Please answer the following questions according to what you know and have observed about the sixth grade students that you teach or have contact with.

Your cooperation is greatly appreciated!

1. Do you feel that the ability to make decisions is a learned process? Please explain.

2. In general, how would you describe the decision making abilities of the sixth grade students?

___ Excellent ___ good ___ Fair ___ Poor

3. Do you feel that there is a need to develop decision making skills in the sixth grade students that you have contact with? If so, what recommendations can you make?

ALL ABOUT ME

My favorite things to do are...

When I can read whatever I want, I usually choose...

When I'm by myself I like to...

The person I enjoy spending the most time with is...

When I grow up, I'd like to...

The three things I like most about school are...

and the three things I like least about school are...

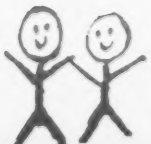
A.M.

The things I do best are...

If I could be like anyone in the world, I would be like...

My favorite movie is...

What I like best about myself is...



Appendix B

Grouped and Sequenced Objectives

Lesson	Learning Time
Lesson 1 Introduction	40 minutes
Lesson 2 Objectives 1.0-1.3	80 minutes
Lesson 3 Objectives 2.0 2.1	40 minutes
Lesson 4 Objective 2.3	40 minutes
Lesson 5 Review Objectives 1.0-2.3	40 minutes
Lesson 6 Objectives 3.2 3.4	40 minutes
Lesson 7 Objectives 3.1 3.3	40 minutes
Lesson 8 Objective 3.0	40 minutes
Lesson 9 Objectives 4.0 4.1 4.2	80 minutes
Lesson 10 Objective 4.3	40 minutes
Lesson 11 Review entire process Objectives 1.0-4.4	80 minutes

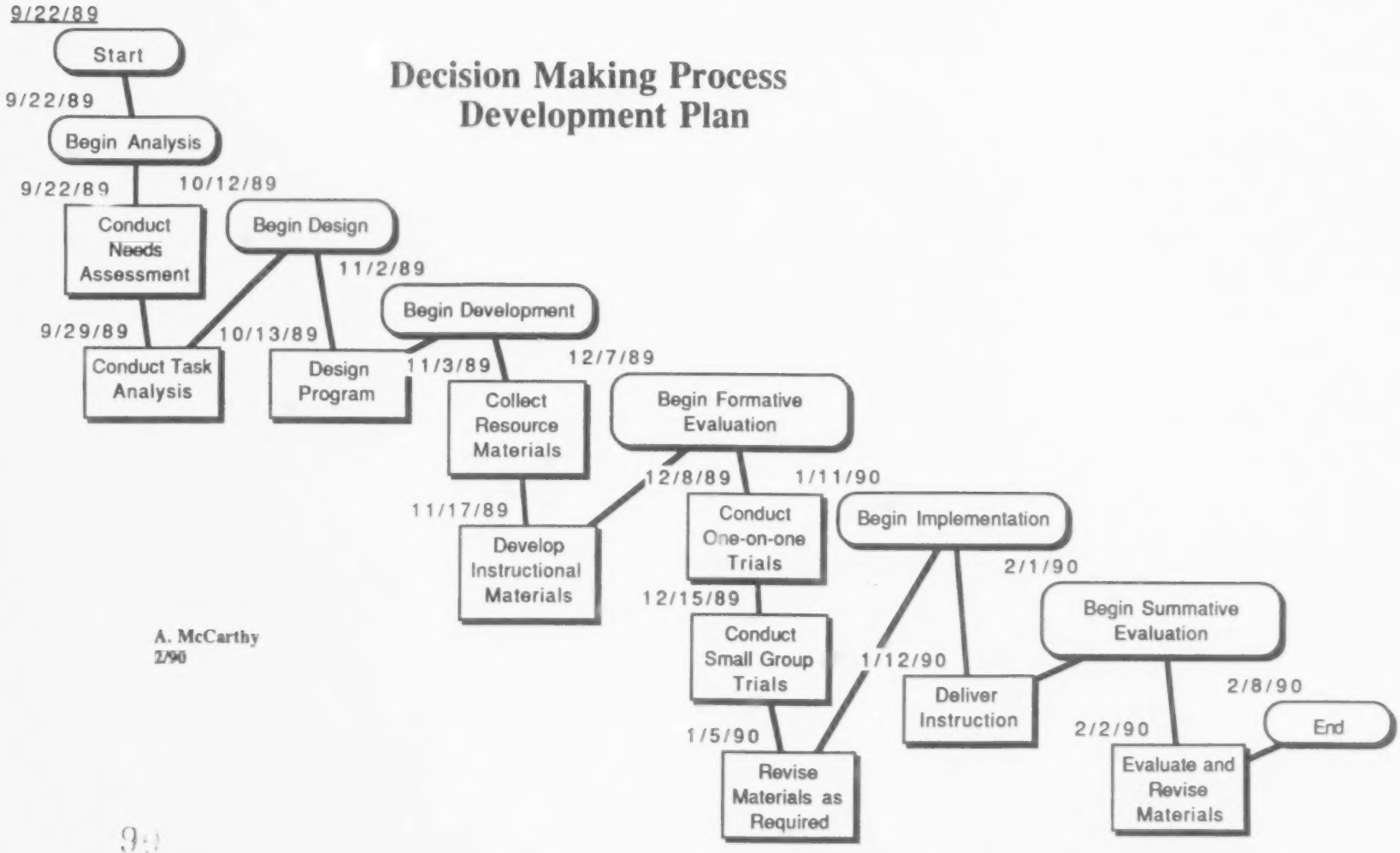
Appendix C

Project Planning

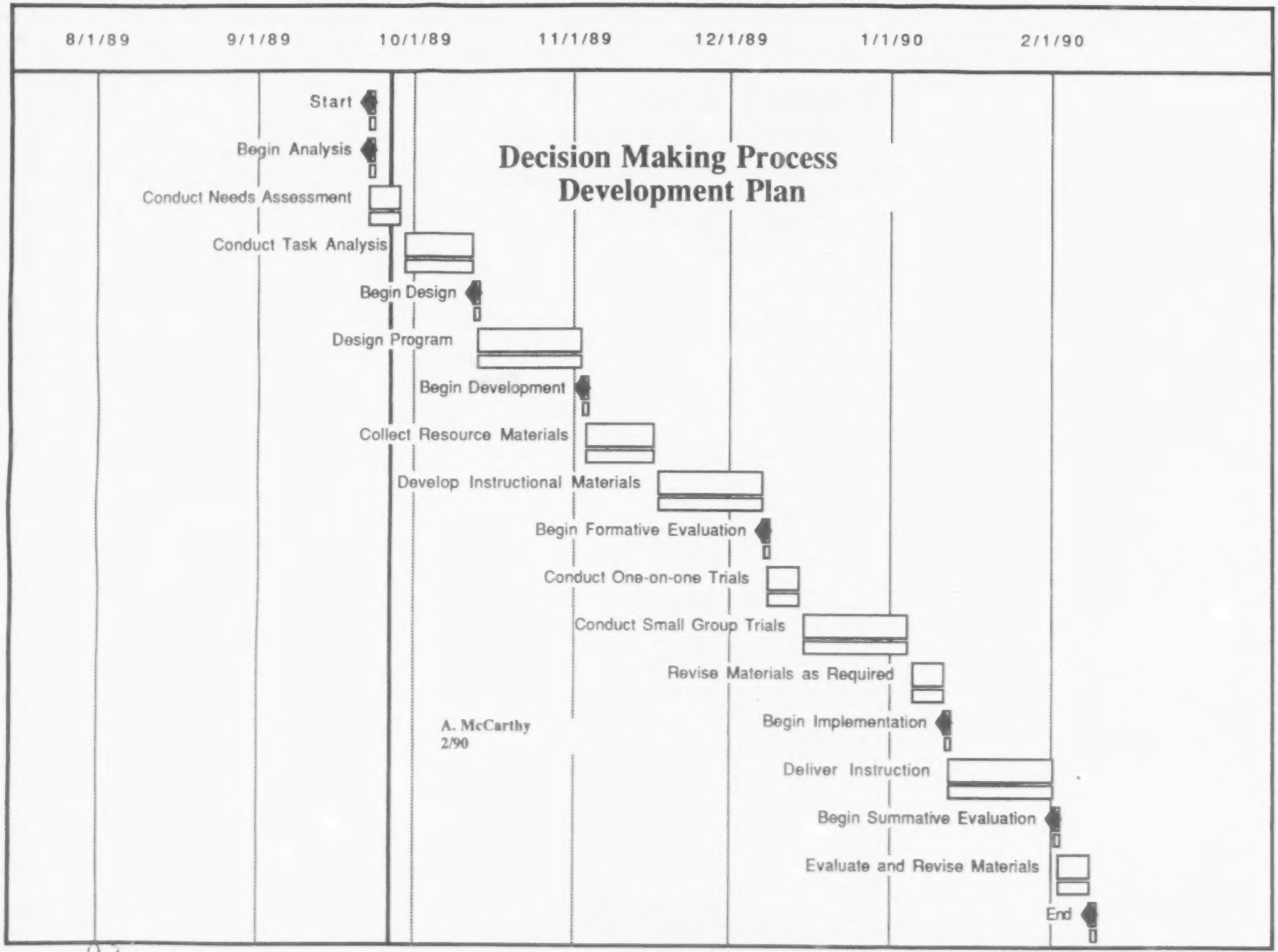
MAJOR EVENTS LIST AND TIME LINE

	WEEKS	START	FINISH
1. Start	0	9/22/89	------
2. Needs assessment	1	9/22/89	9/29/89
3. Task analysis	2	9/29/89	10/13/89
4. Program design	3	10/13/89	11/03/89
5. Collect resource materials	2	11/03/89	11/17/89
6. Develop learning materials	3	2/04/90	2/25/90
7. Conduct one-on-one trials	1	3/04/90	3/11/90
8. Conduct small group trial	3	3/11/90	4/01/90
9. Formative evaluation	1	4/01/90	4/08/90
10. Revise materials	1	4/08/90	4/15/90
11. Implementation	3	4/15/90	5/06/90
12. Summative evaluation	1	5/06/90	5/13/90
13. End	0	-------	5/13/90

Decision Making Process Development Plan



A. McCarthy
2/90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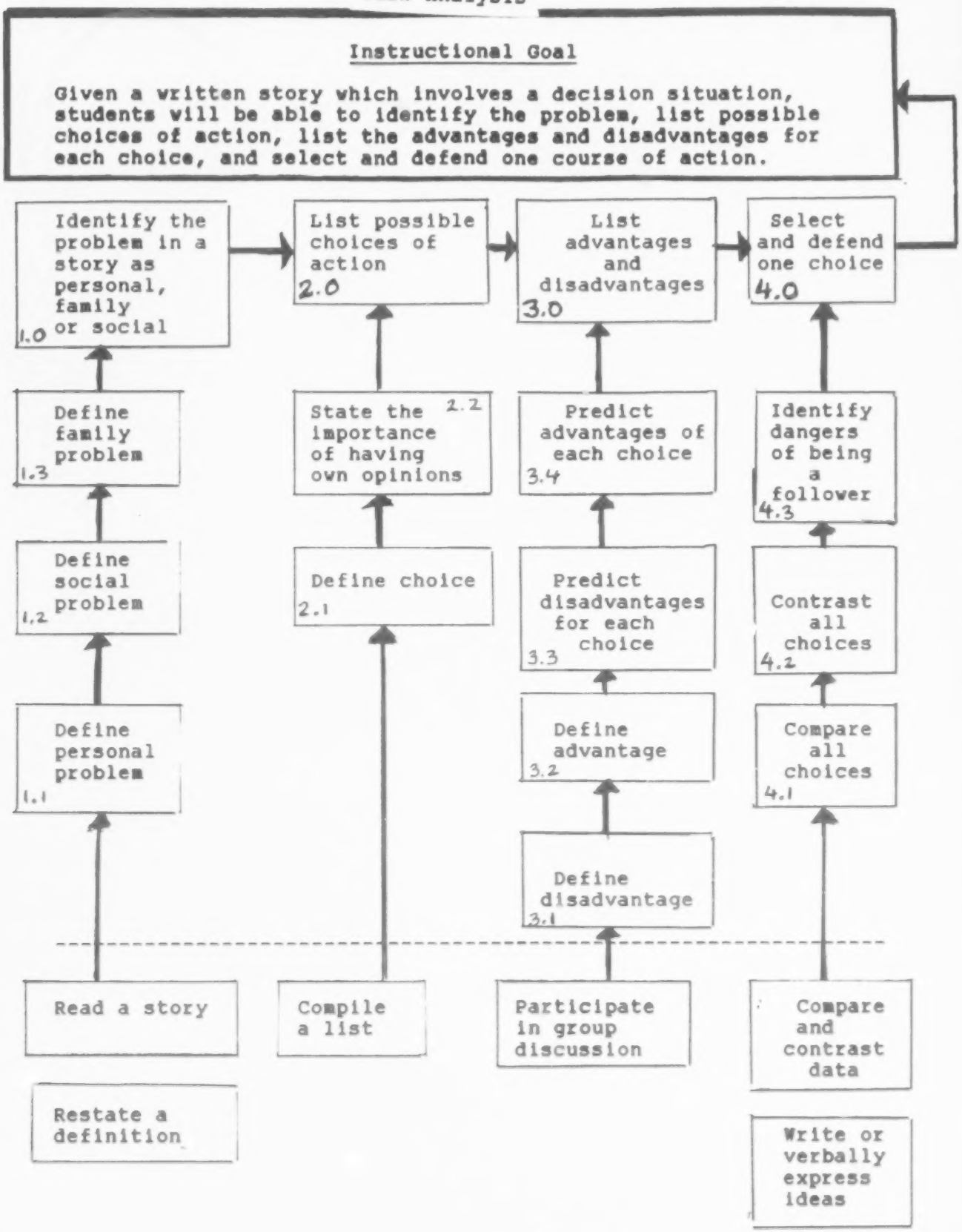
Decision Making Process
Development Plan
Start
Begin Analysis
Conduct Needs Assessment
Conduct Task Analysis
Begin Design
Design Program
Begin Development
Collect Resource Materials
Develop Instructional Materials
Begin Formative Evaluation
Conduct One-on-one Trials
Conduct Small Group Trials
Revise Materials as Required
Begin Implementation
Deliver Instruction
Begin Summative Evaluation
Evaluate and Revise Materials
End
A. McCarthy
2/90

Appendix D

Task Analysis



Appendix E

Evaluation Materials

Attitude Survey

Answer the questions below by checking the box which best describes your feelings.

	YES	NO
1. Do you feel scared when you have to make an important decision?	☐	☐
2. Is it sometimes difficult to make important decisions?	☐	☐
3. Do you enjoy figuring out problems?	☐	☐
4. Do you feel that the decisions you make are usually good ones?	☐	☐
5. Do you think about all your choices before making any decision?	☐	☐
6. Do you think you are a good decision maker?	☐	☐
7. Would you rather have someone else make important decisions for you?	☐	☐
8. Do you think it is important to learn how to make good decisions?	☐	☐

Use this space to write anything you think or feel about making decisions and solving problems.

Name:_____ Date:_____

Pretest/Post Test

I. In your own words, give the definitions of the following types of problems.

1. A personal problem is _____

_____

2. A family problem is _____

_____

3. A social problem is _____

_____

II. Define the following words.

4. Advantage:

5. Disadvantage:

6. Choice:

III. Read the story below. As you are reading, try to imagine that you are the person in the story that has to make a decision.

The Decision

What a great day! Your favorite baseball team has finally made it into the playoffs. The big game is on tonight, and you can hardly wait.

As you sit in math class struggling with division of fractions, your math teacher announces that there will be an important quiz the next day. You know that in order to get a good grade on the quiz, you would have to study for a few hours.

Unhappily, you think about the situation. You have soccer

practice until 6:00, dinner is at 6:30 and the big game starts at 7:00. As the bell rings, you pick up your math books and head for home.

**** Think about this story for a few minutes, and then answer the questions below.

7. Describe your problem, and tell whether it is a family, personal or social problem.

8. What are some of your choices in this situation? List as many as you can think of. You may use the back of the paper if you need more room.

   Choice A:

   Choice B:

   Choice C:

   Choice D:

9. What might happen as a result of these choices?
   List the advantages and disadvantages of each choice listed above.

<u>Choice A</u>

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Choice B

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Choice C

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Choice D

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Use the back of this paper if you need more space.

10. Think about all the choices that you have selected and the advantages and disadvantages of each choice. Which choice or course of action do you think you would take in this situation?

I have decided on Choice ____, because _____

_____

_____

_____

Appendix F

Materials Reproduced

Name:_____ Date:_____

Pretest/Post Test

I. In your own words, give the definitions of the following types of problems.

1. A personal problem is _____

_____

2. A family problem is _____

_____

3. A social problem is _____

_____

II. Define the following words.

4. Advantage:

5. Disadvantage:

6. Choice:

III. Read the story below. As you are reading, try to imagine that you are the person in the story that has to make a decision.

The Decision

What a great day! Your favorite baseball team has finally made it into the playoffs. The big game is on tonight, and you can hardly wait.

As you sit in math class struggling with division of fractions, your math teacher announces that there will be an important quiz the next day. You know that in order to get a good grade on the quiz, you would have to study for a few hours.

Unhappily, you think about the situation. You have soccer

practice until 6:00, dinner is at 6:30 and the big game starts at 7:00. As the bell rings, you pick up your math books and head for home.

**** Think about this story for a few minutes, and then answer the questions below.

7. Describe your problem, and tell whether it is a family, personal or social problem.

8. What are some of your choices in this situation? List as many as you can think of. You may use the back of the paper if you need more room.

   Choice A:

   Choice B:

   Choice C:

   Choice D:

9. What might happen as a result of these choices?
   List the advantages and disadvantages of each choice listed above.

Choice A

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Choice B

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Choice C

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Choice D

Advantages	Disadvantages
_____	_____
_____	_____
_____	_____

Use the back of this paper if you need more space.

10. Think about all the choices that you have selected and the advantages and disadvantages of each choice. Which choice or course of action do you think you would take in this situation?

I have decided on Choice ____, because _____

_____

_____

_____

NAME:_____

WORKSHEET #1

IDENTIFYING PROBLEMS

DIRECTIONS: Read these stories, and answer the questions after each story.

Matthew's Problem

Matthew is having trouble with division of fractions. He believes that he is the only one in his math class that does not understand the work, and he is embarrassed to ask the teacher for help.

What type of problem is Matthew experiencing?

Why do you think so?

Tom's Problem

Tom received a terrific boom box from his parents as a birthday present. He has saved his money for weeks to buy some tapes to play on it, but it seems that someone is always complaining that the music is too loud. Yesterday, his sister said that the loud music was disturbing her studying, and his dad got angry when Tom didn't hear that he was being called for dinner. Tom wonders why they bought him the boom box if they don't want him to play it.

What type of problem or problems are described in this story?

Why do you think so?
(Use the back of this paper)

NAME:_____

WORKSHEET #2

MAKING CHOICES

DIRECTIONS: Read the story below, and then answer the questions about Mary's choices.

Mary's Problem

Mary and her friend Tina have a science test today. Mary studied all week for the test, and she knows that Tina hardly studied at all. Before the test, Tina asks Mary if she would let her copy some answers during the test if she gets stuck. Mary knows that cheating is wrong, but she does not know what to do.

Think about this story for a few minutes before answering the questions.

What choices does Mary have in this situation?

List as many as you can think of.

1. _____

_____

2. _____

_____

3. _____

_____

4. _____

_____

5. _____

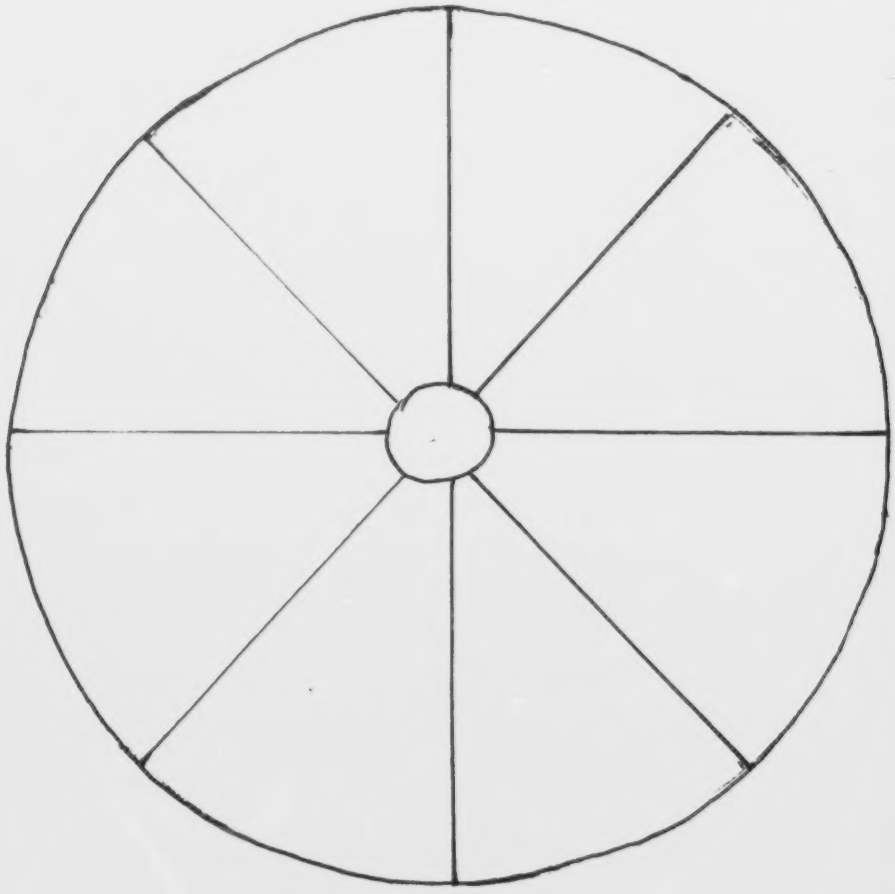
_____

NAME:_____

WORKSHEET #3

DECISION WHEEL

DIRECTIONS: Color in red the number of sections on the Decision Wheel which indicate your own decision making power. Then, use the color chart below to show the power that other people have in the decisions that you make.



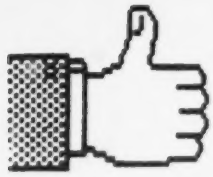
Parents -- Blue

Friends -- Green

Teachers-- Yellow

NAME:_____

WORKSHEET #4



ADVANTAGES

DIRECTIONS: Review the list of Mary's choices on Worksheet #2.

Now, think of some advantages of each choice.

List them here.

Advantages of Choice #1

_____

_____

_____

Advantages of Choice #2

_____

_____

_____

Advantages of Choice #3

_____

_____

_____

Advantages of Choice #4

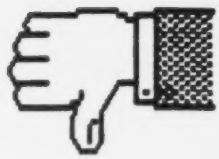
_____

_____

_____

NAME: _____

WORKSHEET #5



DISADVANTAGES

DIRECTIONS: Review the list of Mary's choices on Worksheet #2. Now, think of some <u>disadvantages</u> for each choice. List them here.

<u>Disadvantages of Choice #1</u>

_____

_____

_____

<u>Disadvantages of Choice #2</u>

_____

_____

_____

<u>Disadvantages of Choice #3</u>

_____

_____

_____

<u>Disadvantages of Choice #4</u>

_____

_____

_____

NAME:_____

WORKSHEET #6

TAKING ACTION

DIRECTIONS: Before making any decision, it is important to consider all the choices and the advantages and disadvantages of each choice. Use all the worksheets in your folder to evaluate all the choices.

After you and your group have discussed your lists of choices and considered the advantages and disadvantages of each choice, answer the following questions.

What choice do you think would be best for Mary?

Choice: _____

_____

Why do you think this would be the best thing for her to do?

NAME: _____

WORKSHEET 07

MY OWN BELIEFS

DIRECTIONS: Think about our class discussion about the kinds of things and the people who influence our opinions. List some of these things here.

1.

2.

3.

4.

5.

Write a short essay on why you think it can be dangerous to acceopt the ideas of other people and things without considering what is best for you.

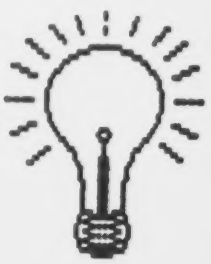
NAME:_____

A DECISION A DAY

THINK OF SOME OF THE DECISIONS YOU HAVE MADE THIS WEEK. LIST SOME OF THEM ON THE CALENDAR BELOW.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

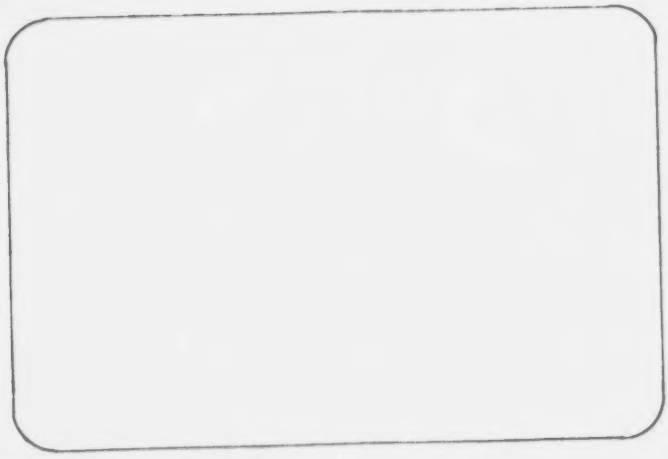
HOW HAS THE DECISION MAKING PROCESS HELPED YOU IN MAKING THESE DECISIONS?

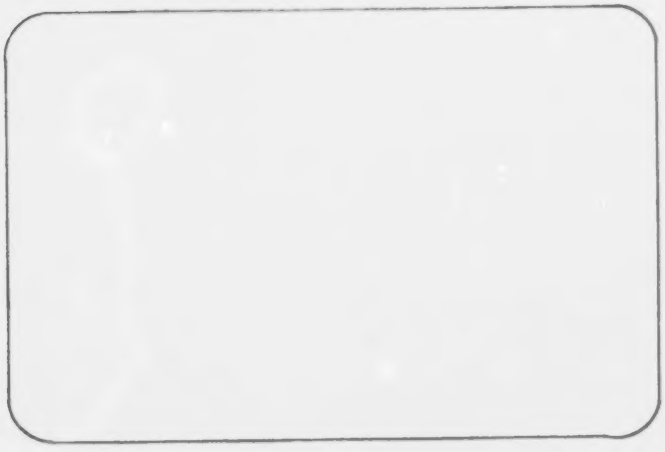


NAME: _____

STORY BOARDS

USE THIS STORY BOARD TO HELP YOU PLAN OUT THE SCENES FOR YOUR VIDEO. DRAW PICTURES OF SOME OF THE ACTION YOU WOOULD LIKE TO DISPLAY IN THE BOXES. WRITE THE DIALOGUE THAT GOES WITH EACH SCENE ON THE LINES NEXT TO EACH BOX.

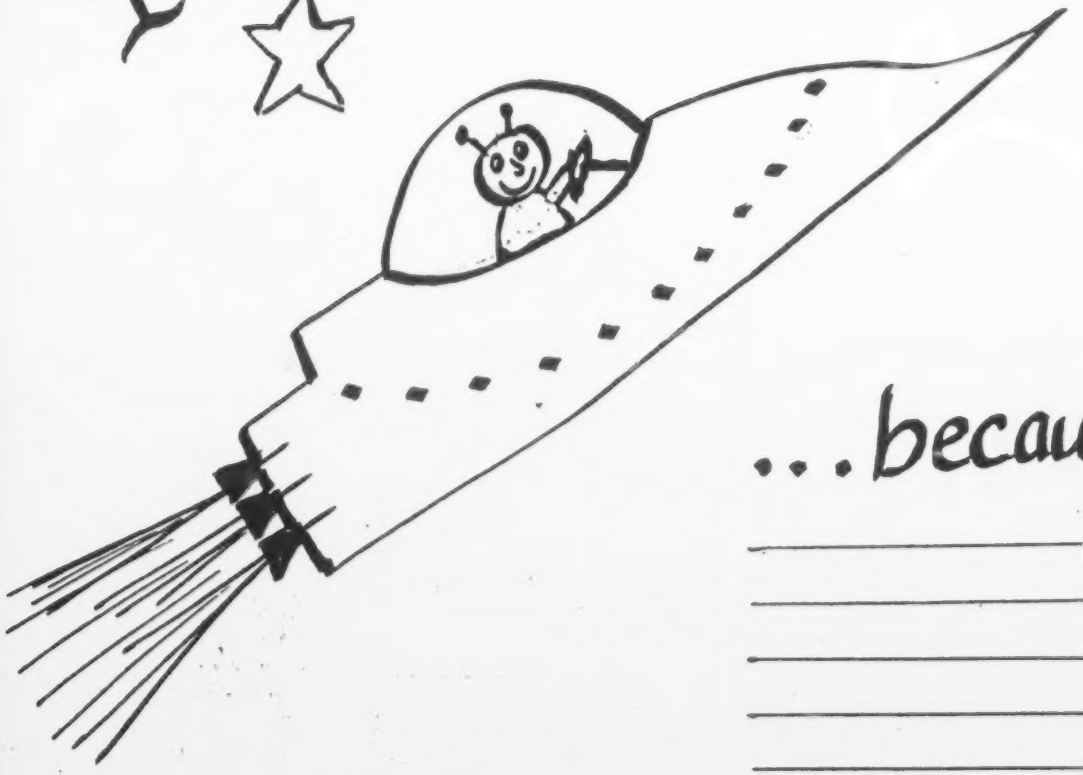




THE DECISION MAKING PROCESS

	Identify Problem	Identify Choices	Predict Consequences	Select Action	Evaluate	

I AM A GREAT DECISION MAKER...



...because now I can

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